Mental Health Across the Life Course

by

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ABSTRACT

The objective of this dissertation is to examine mental health issues and disparities at various points in the life course and to explain some of the mechanisms that may underlie these persistent mental health inequalities and issues in the United States. The studies in this dissertation focused on three aspects of population mental health: psychological distress, substance misuse, and beliefs about depression and mental health treatment. The first empirical study utilized longitudinal data from the Panel Study of Income Dynamics to examine mental health issues across the life course by investigating the relationship between adolescent peer victimization, adolescent self-concept, and psychological distress in emerging adult mental health. Results demonstrated that adolescent peer victimization is positively associated with psychological distress in emerging adults and self-concept partially mediates the association. A second empirical study used longitudinal data from the National Longitudinal Study of Adolescent to Adult Health to explore gender differences in mental health through examining the relationship between early life adversity, adolescent perceived social support, and substance misuse between men and women in young adulthood. Findings from this study showed that early life adversity is associated with substance misuse in young adults, and cumulative early life adversity and types of early life adversities differentially impact substance misuse. The study also found that social support plays a dual role in the relationship between early life adversity and substance misuse because it serves as a buffer between some types of early life adversities and an aggravator between other types and substance misuse. A final qualitative study used

interview data from 34 African American and White American women to examine racial/ethnic mental health disparities by exploring racial differences in the meanings and experiences of depression and beliefs about help-seeking. Findings from the study demonstrated that African American and White American women had relatively similar beliefs about depression, stigma, and help-seeking. The study also found key racial differences in expression of depressive symptoms, barriers to mental health services, mental health treatment preferences, and messages learned about mental health family, friends, and the media. Collectively, these studies showed that inequalities in exposure to early life stressors and adversity, and differences in access to psychological and psychosocial resources contribute to mental health disparities in adulthood. Additionally, the cultural messages that individuals receive, especially in their youth, and the meanings placed on mental health treatment influences whether they utilize mental health services. Some of the racial differences in the experiences of depression and messages about mental health may contribute to unmet mental health needs and mental health disparities. The knowledge gained from these studies can inform sociological scholarship and interventions that can eventually help to improve population mental health

CHAPTER I

Introduction

Objective

The objective of this dissertation is to examine mental health disparities and issues at various points in the life course and to explain some of the mechanisms that may underlie these persistent mental health inequalities and issues in the United States. Mental health, defined as emotional, psychological, and social well-being, is important at every stage of life, from childhood and adolescence to adulthood (U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion [HHS ODPHP], 2014). Mental health impacts individuals' personal well-being and their ability to contribute to society; poor mental health and mental disorders are costly at both the individual and societal levels (Aneshensel, 2009; Greenberg, Fournier, Sisitsky, Pike, & Kessler, 2015). To acknowledge the importance of mental health, CDC research agenda and Health People 2020 include multiple goals related to prevention and ensuring access to quality mental health services in an effort to improve population health and reduce mental health inequalities and issues (HHS ODPHP, 2014). This study is aligned with the research agenda and objectives of the CDC and Healthy People 2020 for improving societal mental health.

Statement of the Problem

Mental health problems and disparities are critical public health issues that have relevance for research, health policy, and intervention. In 2018, 19.1% of US adults, or 1 in 5, experienced mental illness and in any given year, an estimated 4.2% of US adults suffer from a seriously debilitating mental illness (National Alliance on Mental Illness [NAMI], 2019). Mental illness refers collectively to all diagnosable mental disorders or health conditions that are characterized by alterations in thinking, mood, and/or behavior that are associated with distress and/or impaired functioning (HHS ODPHP, 2014). Mental illness has serious consequences and are associated with negative outcomes for those who endure them; for example, in 2018, one-fifth of US adults with mental illness also experienced a substance use disorder (NAMI, 2019). Mental illness is also a leading cause of both injury and disease for people around the world (World Health Organization, 2018). Individuals who experience depression report increased use of social and medical services, social and work impairment, and lost productivity as a result of work impairment or absenteeism (Poole, Dobson, & Pusch, 2017). While there are several types of mental disorders, depression is among the most common and can be devastating for the people who have it and their families and the economy (World Health Organization, 2018). Overall, depression accounted for a total economic burden of over $200 billion in 2010 that included direct costs of major depression disorder, workplace costs such as absenteeism and unemployment, suicide-related costs, and comorbid physical and psychiatric conditions (Greenberg et al., 2015). To improve population health and well-being, it is important to recognize and understand that impact of mental health problems like depression on health.

Depression is a prevalent mental disorder in the United States and worldwide. Major or clinical depressions is a serious mental health condition that requires understanding and medical care (NAMI, 2015). Some people have only one depressive episode in a lifetime, but for most

people depression recurs and without treatment, depressive episodes can last a few months to several years (NAMI, 2015). Depressive episodes may include a range of symptoms, such as depressed mood and decreased interest in most activities (Poole et al., 2017). Overall, 7.1% of US adults have experienced major depressive episodes in any given year, and while people of all sociodemographic backgrounds experience depression there are some groups of people who experience it more than others (National Institute of Mental Health [NIMH], 2019). In 2017, the prevalence of major depressive disorder was higher among adult females compared to males and emerging adults aged 18-25 had the highest prevalence of major depression relative to other age groups (NIMH, 2019). The prevalence of major depressive episodes was highest among White Americans, followed by African Americans and Latinx persons in 2017 (NIMH, 2019). For individuals with major depressive disorder, rates of suicide attempts and completions are elevated relative to the population at large (NIHM, 2017). Depression is also the leading cause of disability in the United States for people ages 15 to 44, and a major contributor to the overall global burden of disease (World Health Organization, 2018). It is essential that research explores the causes and consequences of depression to inform policies to reduce the prevalence of the condition.

Depressive disorders have long-term consequences for psychological well-being and physical health. Depression can affect people's ability to participate health-promoting behaviors, which can cause physical health problems such as chronic diseases (Lando, Williams, Sturgis, & Williams, 2006). In fact, depressed people have a 40% higher risk of developing cardiovascular and metabolic diseases and cancers than the general population (NAMI, 2019). Unfortunately, the development of chronic disease and physical health problems from depression can worsen depressive symptoms and decrease a person's ability to participate in treatment and recovery

(HHS ODPHP, 2014). At its worst, depression can lead to suicide; suicide is the 10th leading cause of death in the United States and the 2nd leading cause of death among people aged 10-34 in the US (NAMI, 2019; World Health Organization, 2018). In fact, 90% of those who die by suicide have shown symptoms of a mental health condition like depression and almost half of people who die by suicide have a diagnosable mental health condition (NAMI, 2019). Another potential consequence of depression is engaging in substance abuse or misuse to relieve depressive symptoms and manage psychological stress; approximately 30% of people with substance abuse problems also have depression (Leeies, Pagura, Sareen, & Bolton, 2010; NAMI, 2015). Substance abuse can have lasting social, economic, legal, and health consequences such as disability and cancer (Nguyen, 2012). If we examine and understand some of the factors that contribute to depression then policy and interventions can focus on prevention and reduce the negative outcomes associated with depression.

Mental health conditions like depression are complex with multiple causes and contributing factors. Depression can occur spontaneously without any provocation, but it is often triggered by a complex interaction of social, psychological, and biological factors (NAMI, 2015). While genetics is a risk factor for developing depression because mood disorders tend to run in families, research has found that social factors like stress may be equally or more important (NAMI, 2015). Stressors, or events and situations that elicit physical, physiological, or psychosocial reactions, and negative life circumstances experienced in adulthood can also lead to depression such as low financial standing or medical conditions like chronic pain (World Health Organization, 2018). Negative life events and stressors experienced at an early age can cause long-term changes in how people respond to fear and stress and this may explain why people who have a history of childhood trauma are more likely to experience depression (NAMI, 2015).

In fact, researchers have found that depression often beings early in life because of stress exposure and suggest that the greatest opportunity for prevention of mental health problems is among young people (HHS ODPHP, 2014). While there are several contributing factors to depression, early life stress and negative experiences are among the most harmful for mental health. Research is still required to understand the kinds of early life stress and other potential factors that impact later life mental health and perpetuate mental health disparities.

Unmet mental health needs are public health issues that can contribute to mental health disparities. Mental health conditions such as depression usually requires a treatment plan that consists of medication, psychotherapy, and/or lifestyle choices to effectively manage the conditions (NAMI, 2015). Although mental health treatment is essential for managing mental health conditions, 35% of depressed adults in the United States did not receive any treatment in 2017 (NIMH, 2019). There are also significant racial/ethnic and gender differences in depression care with as few as seven percent of depressed African American women receiving depression care (Beauboeuf-Lafontant, 2007). The low number of African American women seeking and utilizing mental health care can contribute to mental health disparities as unmanaged depression can make it impossible to live healthy and productive lives (NAMI, 2015). These potential unmet health needs of African Americans may explain why depression in African Americans is more persistent and results in greater disability and chronic health conditions than White Americans, which can lead to overall racial/ethnic health disparities (American Psychiatric Association [APA], 2017). Researchers have identified numerous barriers to care including lack of resources, lack of insurance, social stigma, associated with mental disorders, lack of diversity among mental health providers, and inaccurate assessment (APA, 2017). While it is important to know some of the barriers to mental health treatment, it is more informative to understand what these

barriers and mental health mean to individuals and how they impact help-seeking behavior. The meaning and experiences of mental health and treatment of individuals especially racial/ethnic minorities can inform interventions that encourage them to seek help, reduce mental health disparities, and improve population mental health.

Purpose of the Research

The purpose of this research, consisting of three studies, is to investigate mental health and substance misuse across the life course and to understand some of the factors that may contribute to mental health disparities. This mixed-methods research aims to extend existing literature about the impact of the stress process model on mental health and substance misuse, and to explore how cultural differences in beliefs and experiences can impact help-seeking for mental health problems. To attain these goals, two quantitative studies were conducted to explore how early life stress and adversity impact mental health and substance misuse in adulthood. In addition, a qualitative study was conducted to explore racial differences in the experiences of depression and beliefs about mental health treatment to gain knowledge about some of the factors contributing to unmet mental health needs.

Research Questions and Hypotheses

The first study investigates the relationship between adolescent peer victimization, adolescent self-concept, and emerging adult mental health. This study addresses the following two research questions and hypotheses:

1. Does adolescent peer victimization contribute to the development of psychological distress in emerging adulthood?

Hypothesis 1.1 - Adolescent peer victimization will contribute to higher levels of psychological distress in emerging adulthood

2. Does adolescent self-concept mediate the relationship between adolescent peer victimization and psychological distress in emerging adulthood?

Hypothesis 2.1 - Adolescent self-concept will mediate the relationship between adolescent peer victimization and psychological distress in emerging adulthood. Adolescent peer victimization will damage a victim's self-concept during adolescence, and the damaged adolescent self-concept will contribute to more psychological distress in emerging adulthood.

The second study examines the relationship between early life adversity, perceived social support in adolescence, and substance misuse in young adulthood. This study addresses the following four research questions and hypotheses:

3. Does cumulative early life adversity contribute to heavy alcohol use, cigarette smoking, or illicit drug use in young adulthood?

Hypothesis 3.1 - Cumulative early life adversity will contribute to higher odds of all three types of substance misuse in young adulthood: heavy alcohol use, cigarette smoking, and illicit drug use.

4. Does perceived social support moderate the relationship between cumulative early life adversity and heavy alcohol use, cigarette smoking, or illicit drug use?

Hypothesis 4.1 - Perceived social support will moderate the relationship between cumulative early life adversity and substance misuse in young adulthood. Young adults who experienced early life adversity and had higher perceived adolescent social support will have lower odds of substance misuse than their counterparts who experienced early life adversity but had low perceived adolescent social support.

5. Do different domains of early life adversities contribute to specific types of substance use in young adulthood?

Hypothesis 5.1 - Domains of early life adversities will be uniquely associated with substance misuse, meaning that some domains may be associated with higher odds of heavy alcohol use, cigarette smoking, or illicit drug use while others may not.

6. Does perceived social support moderates the relationships between domains of early life adversities and substance misuse in young adulthood?

Hypothesis 6.1 - Perceived adolescent social support will moderate the relationship between some domains of early life adversities and substance misuse. Higher levels of perceived adolescent social support will be associated with lower odds of heavy alcohol use, cigarette smoking, or illicit drug use among young adults who experienced a domain of adversity.

The third study explores how meanings and perceptions of depression, stigma, and help-seeking differ between African American and White American women. This qualitative study addresses the following two research questions and hypotheses:

7. How do African American and White American women conceptualize and define depression?

Hypothesis 7.1 - African American women will view depression more negatively than White American women

8. Do the meaning and experiences of depression and help-seeking differ between African American and White American women?

Hypothesis 8.1 - African American women will view seeking help for depression as weakness and will prefer forms of treatment that are outside of traditional medical care (therapy and antidepressants). White American women will have more favorable views of seeking help and traditional medical mental health care. The experiences of depression and beliefs about help-seeking will differ between African American and White American women because of racial

differences in different depressive symptoms, cultural mistrust in healthcare systems, and stigma within the African American community.

Theoretical Framework

This research is grounded by two theoretical frameworks to understand the underlying mechanisms of mental health disparities throughout the life course. The first framework is the social stress theory and the stress process model from a life course perspective. The life course perspective emphasizes how early life experiences can shape health across an entire lifetime of an individual (Braveman & Barclay, 2009). The stress process model has incorporated life-course principles to understand how the effects of stressors may extend through time, and it provides a general framework for understanding how socially patterned stressors might undermine mental health later in life (Hill, Kaplan, French, & Johnson, 2010). The idea is that exposure to one stressor, regardless of whether it is an event or more chronic hardship, may lead to exposure to other secondary stressors, which is called stress proliferation (Pearlin, 1989). Young people, who experience multiple stressors or high levels of adversity during their formative years of childhood and adolescence, may be at higher risk of mental health problems and maladaptive coping strategies in an effort to alleviate negative feelings associated with stress and trauma (Monnat & Chandler, 2015; Nurius, Green, Logan-Greene, & Borja, 2015). Those mental health problems and maladaptive coping strategies can continue into adulthood and lead to individuals experiencing additional stressors and further damaging their mental health. While the stress process model demonstrates how early life stress can contribute to later life mental health problems, it also recognizes how psychological resources can be mediators that link stressful circumstances and adversity to poor mental health outcomes (Pearlin, 1989). The stress process model also acknowledges that people can experience similar early life adversity and

have different mental health outcomes, with some experiencing mental disorders and others exhibiting positive mental health (Hill et al., 2010). The model emphasizes how psychosocial resources such as social support might be protective factors and buffer the impact of early life stressors and adversity of mental health (Pearlin, 1989). This model is useful in examining whether early stressors contribute to the development of mental health problems or substance misuse in later life. The model also allows for the investigation of potential mediators and moderators in the relationships between early life stressors and later life mental health problems and substance misuse.

The second theoretical framework for this research is culture and meaning-making in mental health to understand some of the factors contributing to racial differences in depression rates and utilization of mental health services. Culture is defined as processes of meaning-making and the way individuals view themselves and society can impact how they define health and illness (Carpenter-Song et al., 2010; Spillman, 2001). Culture affects how illnesses are identified, defined, and made meaningful; how they vary with respect to timing and onset, presenting symptoms, treatment utilization and responses (Carpenter-Song et al., 2010). The meanings that individuals ascribe to health and illness shape emotional responses to mental health, which impacts whether they recognize mental health disorders, whether they seek help for any perceived symptoms, and how they respond to healthcare providers and providers' prescribed treatment regimens (Kinderman, Setzu, Lobban , & Salmon, 2006). This framework is well-suited for understanding some of factors that contribute to the inconsistent depression rates of African American women and racial disparities in mental health service utilization.

Methods

This dissertation utilizes quantitative and qualitative data to understand mental health disparities across the life course. Regression analyses were conducted to test the hypotheses in the studies examining early life stress and adversity and later mental health and substance misuse. Thematic analysis was conducted to test the hypotheses in the final study exploring racial differences in perceptions of depression and help-seeking.

The first study uses longitudinal data from the Panel Study of Income Dynamics Child Development Supplement and Transition to Adulthood studies (PSID-CDS and -TA). The data follows a nationally representative sample of children through emerging adulthood. Extensive data were collected on parents and their children in PSID families when children were years old or younger, generating the Child Development Supplement (CDS). The same children and their caregivers were re-interviewed five and ten years later, once the children turned 18 years old, they were moved into the Transition to Adulthood Supplement (TA) and followed into adulthood. This study is intended to examine the relationship between adolescent peer victimization, adolescent self-concept, and psychological distress in emerging adulthood.

The second study utilizes longitudinal data from the National Longitudinal Study of Adolescent to Adult Health (Add Health), a large-scale study of health needs and outcomes of a nationally representative sample of US adolescents in four waves over a period fourteen years. This study examines the relationship between adverse childhood experiences, perceived social support, and substance misuse in young adulthood.

The final study uses qualitative data from 34 African American and White American women. Semi-structured interviews were conducted with 17 African American and 17 White American women to explore racial differences in the meanings and experiences of depression

and beliefs about help-seeking. The human subjects' protocol for this study was approved by the University of Michigan institutional review board.

Significance of the Research

This research contributes to sociological literature by using multiple methods and sources of data to understand factors that contribute to mental health disparities across the life course. These studies focus on three key aspects of population mental health: psychological distress in emerging adulthood; substance misuse in young adulthood; and racial disparities in beliefs about depression and mental health treatment. The studies on psychological distress and substance misuse extends social stress scholarship by examining the early life stress and adversity and their impacts on later life mental health and substance misuse. Utilizing prospective longitudinal data, these studies provide empirical evidence of the stress process model in early life focusing on the mediators and moderators that link early life stressors to later life mental health problems. While it is important to understand some of the underlying mechanisms or causes of poor mental health in later life, we still need to know how to treat these issues and reduce treatment disparities that contribute to mental health disparities. The third study addresses mental health and treatment disparities and extends culture and social psychology scholarship by exploring racial differences in the meaning and beliefs about mental health, depression, and help-seeking between African American and White American women. Together, these studies can inform and expand existing literature and policy about population mental health with a more comprehensive understanding of mental health disparities and innovative means to improve health at the individual and societal levels.

Findings from this research will provide policy makers knowledge about the consequences of early life stress and adversity and negative cultural messages and experiences

about mental health and treatment. Better understanding of the long-term mental health consequences of childhood and adolescent social stressors and adversity may allow us to potentially intervene with effective interventions to improve population mental health and substance misuse in emerging and young adults. This will allow policymakers and health educators to intervene and focus on prevention among children and adolescents, and to reduce the likelihood of youth developing mental health or substance misuse problems later in life. To improve population health, effective interventions also have to address unmet mental health needs and the underutilization of mental health services especially by racial/ethnic minorities. Findings about what mental health and treatment means to African American and White American women can inform intervention programs and allow therapists, physicians, and health educators to design effective, culturally appropriate interventions for depressed African American and White American women. These interventions can encourage African American women to recognize the signs of depression and seek help, and potentially reduce the proportion of unmet needs especially among racial/ethnic minorities. Overall, better understanding of the factors leading to mental health disparities across the life course can contribute to reducing health costs and improving population mental health.

Summary

This chapter provided the purpose, a brief background, and the significance of the dissertation research. This research addresses the mental health disparities across the life course utilizing social stress and culture theoretical frameworks. Chapter two, an empirical study, examines whether adolescent psychological distress in emerging adults is associated with adolescent peer victimization. It also explores whether adolescent self-concept is a mediator in the relationship between peer victimization and later psychological distress. Chapter three,

another empirical study, investigates the relationship between early life adversity and substance misuse in young adulthood, and whether perceived social support is a moderator in the relationship. The fourth chapter, a qualitative study, explores racial differences in the meanings and experiences of depression, and beliefs about help-seeking and mental health treatment. Chapter five discusses the conclusions from this research, offers directions for future research, and implications for health policy and interventions.

CHAPTER II

Adolescent Peer Victimization, Self-concept, and Psychological Distress in Emerging Adults

INTRODUCTION

Peer victimization has emerged as a significant public health concern affecting US youth. Peer victimization, or bully victimization, is one of the most frequent forms of victimization in childhood and adolescence; bullying impacts approximately 30% of 6th to 10th grade students in the United States (Turner, Exum, Brame, & Holt, 2013). Bully victimization includes physically harming, making fun of, excluding, and/or spreading rumors about a person (Esbensen & Carson, 2009). The victimization must occur repeatedly over time and involve a power imbalance between the bully and the victim (Olweus, 1993). In the past twenty years, researchers have started to examine the impact of being bullied on children's and adolescents' lives and the impact on their mental health (Patchin & Hinduja, 2011). Victims of bullying are at increased risk for psychological problems in adolescence such as depression and anxiety (Barchia & Bussey, 2010; Levinson, Langer, & Rodebaugh, 2013). While the immediate and short-term consequences of peer victimization in early-life are well-documented, knowledge about the potential long-term consequences for victims' psychological well-being in emerging adulthood is only slowly growing (Brendgen, 2018). Few studies with measures of adolescent bully victimization have traced participants to adult life, therefore relatively little is known about long-term consequences of peer victimization or processes whereby peer victimization may lead to those negative outcomes (Takizawa, Maughan, & Arseneault, 2014). We need more studies to

examine the potential consequences of adolescent peer victimization during the transition to adulthood and the impact on emerging adult mental health. This study examines mental health issues across the life course by exploring the relationship between adolescent peer victimization and psychological distress in emerging adulthood, and whether self-concept is a mediator in the relationship.

Traumatic experiences, like peer victimization, are important stressors to investigate during the transition to adulthood because of potential long-term consequences for psychological well-being. The recent shift in focus from bully perpetration to peer victimization has resulted in research demonstrating how the impact of early-life peer victimization on mental health can continue into adulthood (Barchia & Bussey, 2010; Copeland, Wolke, Angold, & Costello, 2013; Sigurdson, Wallander, & Sund, 2014; Wolke, Copeland, Angold, & Costello, 2013). Several studies have shown the long-term effects of being bullied during adolescence include anxiety disorders, mood-related disorders, and suicide ideation in young adults (Brendgen, 2018). Much of the current research on adolescent peer victimization and adult mental health relies on epidemiological studies, cross-sectional surveys, or retrospective surveys, with fewer prospective longitudinal studies (Brendgen, 2018; Esbensen & Carson, 2009). To understand the impact of peer victimization on health, prospective longitudinal research is required to examine the enduring mental health consequences of bully victimization and the processes linking adolescent victimization experiences to those outcomes.

Psychological resources, such as self-concept, can be pathways between peer victimization and subsequent mental health. Self-concept is the image that people have of themselves, or a global judgment of their self-worth (Sadhwani, 2013). Significant stressors, like bully victimization, can damage the psychosocial processes responsible for the development of

positive self-concept (Turner, Finkelhor, & Ormrod, 2010). Research has shown that low self-esteem, a component of self-concept that refers to the extent that someone likes himself or herself, can mediate the relationship between peer victimization and mood disorders in children and adolescents (Turner, Shattuck, Finkelhor, & Hamby, 2017). Few studies have investigated whether the mediating role of self-concept between peer victimization and poor mental health extends into emerging adulthood (Brendgen, 2018). Further research is necessary to explore the processes that link bully victimization and long-term mental health to comprehensively understand the impact of peer victimization throughout the life-course.

This study aims to extend peer victimization and social stress scholarship by investigating the relationship between adolescent peer victimization and emerging adult mental health. Using longitudinal data from the Panel Study of Income Dynamics Child Development Supplement and Transition to Adulthood studies (PSID-CDS and -TA), I examine whether psychological distress in emerging adults, ages 18-24, is associated with adolescent peer victimization. I also explore whether adolescent self-concept is a mediator in the relationship between peer victimization and later psychological distress. This study will contribute to the literature by utilizing prospective longitudinal data and exploring the mechanisms underlying peer victimization and emerging adult mental health. Better understanding of the long-term mental health consequences of adolescent peer victimization allows us to potentially intervene with effective interventions targeting psychological resources and mental health of bully victims.

BACKGROUND

Taking a life-course approach to stress, peer victimization, and mental health

The stress process model has incorporated life-course principles to understand how the effects of stressors might extend through time and provides a general framework for

understanding how socially patterned stressors might undermine mental health (Hill, Kaplan, French, & Johnson, 2010). Stressors are events or situations that elicit physical, physiological, or psychosocial reactions; high levels of stressors have been consistently found to predict higher levels of psychological distress **(**Aneshensel, 2009; Hill et al., 2010). The stress process model recognizes how psychological resources (e.g., self-concept) can be mediators that link stressful circumstances and adversity to mental health outcomes (Pearlin, 1989). Hill et al. (2010) found that those who endured early-life victimization often lack psychological resources such as sense of control, mastery, and self-esteem. Studies show that those with low self-esteem are at higher risk for mental health problems in adolescence and adulthood (Boulton, 2013). Adolescent bully victimization may be an early-life stressor that leads to poor mental health in emerging adulthood through damaging psychological resources.

Peer Victimization during the Transition to Adulthood

Adolescence is an important developmental period when youth encounter and ascribe meaning to social stressors that impact their cognitive, emotional and psychological development. During adolescence, defined here as ages 12-17 years old, peer relationships take on increasing importance and play a critical role in adolescents' emotional development as individuals establish a relationship with their socioeconomic environment (Raphael, 2013; Siegel, La Greca, & Harrison, 2009). Adolescents have a strong need to belong and close friends often surpass parents as the primary source of social support and contribute to their self-concept and well-being (Jackson & Finney, 2002; Siegel et al., 2009). Problematic peer relationships often generate high stress responses and contribute to maladaptive functioning and mental health problems among adolescents (Siegel et al., 2009). Mental health problems in adolescence are important because adolescence is viewed as a gateway toward adult health prospects, and the

lingering effects of adolescent stressors may catalyze adult health inequalities (Raphael, 2013). It is important to examine negative peer experiences such as adolescent bully victimization to understand how these salient stressors may influence long-term mental health.

Adolescent peer victimization has detrimental impact on victims' mental health. Bullying ranges from overt victimization to relational victimization (Turner et al., 2013). Overt victimization refers to verbal and physical behaviors conducted within the context of face-to-face interactions and include behaviors such as physical aggression, teasing, and harassment (Greco, Freeman, & Dufton, 2006; Tsaousis, 2016). Relational victimization includes spreading rumors, emotional abuse, and excluding and manipulating friendship groups with the intent to damage relationships (Turner et al., 2013; Wolke et al., 2013).Victims of bullying are at increased risk for psychological problems in adolescence; a longitudinal study found that childhood bully victimization is associated with increased odds of emotional distress and depressive symptoms in early adolescence (Levinson et al., 2013; Zwierzynska, Wolke, & Lereya, 2013). The relationship between peer victimization and mental health in adolescence is well-documented, but further study is needed to examine whether the trauma from peer victimization linger into adulthood, placing vulnerable adolescents at risk for poor transitions into adulthood.

Mental Health in Emerging Adulthood and the Role of Adolescent Peer Victimization

Mental health problems are prevalent in emerging adults. Emerging adulthood, a period between adolescence and young adulthood, is characterized by high levels of change as individuals deal with uncertainty in a range of domains such as relationships, work, and education (Mahmoud, Staten, & Lennie, 2012). Due to the uncertainty and new independence, emerging adulthood has been considered stress-arousing and can lead to the development of psychological distress (Mahmoud et al., 2012). Psychological distress can be a precursor or

indicator of mental illness and includes feelings of low self-worth, loneliness, and externalizing difficulties (Andrews & Slade, 2001). It is important to examine the types of stressors that contribute to the development of psychological distress in emerging adulthood because of the detrimental impact on mental health and functioning.

Early-life peer victimization has been linked to adult maladjustment, but there is disagreement about whether bully victimization experiences in childhood or adolescence are most damaging to future mental health. Most studies have found depression to be the most common mental health outcome of childhood and adolescent peer victimization; however, a few studies found that peer victimization is only associated with externalizing behaviors and does not impact mental health in young adults after accounting for childhood mental health (Barchia & Bussey, 2010; Brendgen, 2018; McGee et al., 2011). A recent body of research has suggested childhood bully victimization experiences are more damaging than adolescent bully victimization (Hoffman, Phillips, Daigle, & Turner, 2017; Tsaousis, 2016). Studies have found that childhood bully victimization is associated with adverse mental health outcomes such as depression, low self-esteem, psychological distress, and anxiety that endured years after victimization, sometimes into mid-adulthood (Hoffman et al., 2017**;** Takizawa et al., 2014; Tsaousis, 2016; Ttofi et al., 2011). These studies recommended that interventions should focus more on the psychological resources and mental health of childhood victims than adolescent victims because of enhanced vulnerability in childhood (Hoffman et al., 2017**;** Tsaousis, 2016). More longitudinal studies are needed to examine the associations between adolescent peer victimization and psychological distress in emerging adulthood to determine the kinds of interventions that are needed for adolescent bully victims.

Adolescent Self-Concept, Peer Victimization, and Adult Mental Health

Adolescent self-concept, or how people view themselves, may be a link between emerging adult poor mental health and adolescent peer victimization. Childhood and adolescence are important periods when psychological resources such as self-concept are developed (Brendgen, 2018). Self-concept is an important psychological resource and research has found that persons with low self-concept are at higher risk for developing depression than those with high self-concept (Sadhwani, 2013). People create and maintain their self-concepts based on information obtained from social environments and interactions, and often perceive themselves in the way others perceive them (Richman et al., 2016). High self-esteem and self-concept are characterized by a general fondness or love for oneself, while low self-esteem and self-concept are characterized by mildly positive or ambivalent feelings toward oneself (Baumeister, Tice, & Hutton, 1989). The links between self-concept and depression have been discussed in the literature; in general persons with low self-concept are at increased risk for a higher degree of depression than those with high self-concept (Sadhwani, 2013; Turner et al., 2010).

Victimization experiences can damage the development of positive self-concept. Studies have found that negative peer relationships and victimization in childhood and adolescence are associated with low self-concept, primarily lower self-esteem and self-efficacy (Esbensen & Carson, 2009; Jenkins & Demeray, 2012). Bully victimization may lead to low self-concept because bully victims may feel unworthy due to perceptions that they are viewed negatively by their peers, or they may internalize the negative experiences and develop feelings of self-blame and helplessness (Boulton, 2013; Brendgen, 2018). Studies have found that negative self-concept can mediate the link between peer victimization and socioemotional functioning problems in primary school children, and that the damage to self-concept caused by childhood peer victimization can linger into late adolescence (Brendgen, 2018; Tsaousis, 2016). It is possible

that low self-concept developed from adolescent peer victimization endures into adulthood and mediates the relationship between bully victimization and poor psychological well-being in the transition to adulthood.

Current Study

To build upon the past research, I pursue the following questions: 1) Does adolescent peer victimization contribute to the development of psychological distress in emerging adulthood? 2) Does adolescent self-concept mediate the relationship between adolescent peer victimization and psychological distress in emerging adulthood? Based on prior literature, I posit that adolescent peer victimization will contribute to higher levels of psychological distress in emerging adulthood. I also hypothesize that adolescent self-concept will mediate the relationship between adolescent peer victimization and peer victimization and psychological distress in emerging adulthood. Adolescent victimization will damage a victim's self-concept during adolescence, and the damaged adolescent self-concept will contribute to more psychological distress in emerging adulthood.

METHOD

Data Sample

Data for this study came from the Panel Study of Income Dynamics (PSID) Child Development and Transition to Adulthood Supplements. The PSID is the world's longest-running nationally-representative household panel survey of US families. In 1997, extensive data were collected on parents and their children in more than 2300 PSID families when children were 12 years old or younger, generating the Child Development Supplement (CDS). The CDS collected data on health, skills assessments, parenting styles, school resources, and socioemotional characteristics of children and their parents. The same children and their

caregivers were re-interviewed in 2002 and 2007 to generate the CDS-II and CDS-III respectively. Once the children turned 18 years old, they were moved into the Transition to Adulthood Supplement (TA) and followed into adulthood.

I examine exposure to peer victimization in adolescence (measured in the CDS interviews) and psychological distress in emerging adulthood (measured in the TA interviews). I utilize a pair of interviews for each child, one from the CDS and one from the TA, that span six-to-seven years between peer victimization and psychological distress to link prior adolescent stressors with subsequent mental health.

The analytic sample utilized the 2002 and 2007 CDS for adolescent measures and the 2009 and 2013 TA for emerging adult mental health measures, respectively. The respondents in the TA were linked to the CDS using a personal identifier; respondents were also linked with 2003 and 2007 PSID Main Family data to obtain information about the adolescents' household characteristics. After linking the respondents to the Main Family data and dropping individuals who were missing data on key predictors, the sample size was reduced to 1414 from an original sample size of 1627.

Measures

Mental Health Outcome. For this study, I rely on the K-6 Non-Specific Psychological Distress Scale to measure the general mental health of emerging adults in the sample. The K-6 scale was developed by Kessler for use in the National Health Interview Survey (NHIS) and has been validated in other studies (Kessler et al., 2003). The Kessler Psychological Distress scale measured anxiety, depression, fatigue, and other affective disorders symptoms (Andrews & Slade, 2001). The scale was constructed using non-missing responses for TA respondents in 2009 or 2013. Respondents were asked how often in the past month they felt: (1) nervous, (2)

hopeless, (3) restless, (4) everything an effort, (5) too sad, and (6) worthless. The answers ranged from 1 = All of the time to 5 = None of the time. To create the scale, the items were re-scored as "All of the time" = 4 points, "Most of the time" = 3 points, "Some of the time" = 2 points, "A little of the time" = 1, and "None of the time" = 0. The scores were then summed, and higher scores indicated higher levels of psychological distress (Scale mean = 4.9, range = 0 - 22 α = .76).

Predictor. Adolescent peer victimization was measured using the Peer Bullying Scale, a measure that has been validated (Kochenderfer & Ladd, 1996). Respondents were asked in 2002 or 2007, how often have kids in your school or elsewhere: (1) picked on you or said mean things to you? (2) hit you? (3) taken your things, like your money or lunch, without asking? (4) purposely left you out of your friends' activities? Answers ranged from 1 = not in the last month to 6 = every day, and the mean of all the responses were used as the peer victimization score (Scale mean = 1.3, range = 1 - 6, α = .60).

Mediator. Adolescent self-concept was measured by a 6-item scale (Marsh, 1990). Respondents were asked in 2002 or 2007, how often the following statement applied to them: (1) Overall, I have a lot to be proud of, (2) I can do things as well as most people, (3) A lot of things about me are good, (4) I'm as good as most other people, (5) Other people think I am a good person, and (6) When I do something, I do it well. The answers included 1 = Never to 5 = Always. The mean of the responses was used as the adolescent self-concept score (Scale mean = 4.0, range = 1 - 5, α =.84).

Covariates. There are numerous potential confounders in the relationship between adolescent peer victimization, adolescent self-concept, and emerging adult psychological distress. To minimize confounding, I controlled for psychosocial factors that are known predictors of both

peer victimization and psychological distress. Adolescent languishing is used as a baseline mental health measure that taps into the social, emotional, and psychological well-being of respondents during adolescence. It could potentially predict whether a respondent was at higher risk for experiencing peer victimization in adolescence or experiencing psychological distress in adulthood **(**Glied & Pine, 2002**;** Kansky, Allen, & Diener, 2016). I also controlled for low neighborhood cohesion and social relationships because these factors can influence an individual's risk for adolescent peer victimization and experiencing mental health problems later in life (Goosby, Walsemann, & Cheadle, 2013; Snedker & Hooven, 2013). Accounting for these different dimensions of social and environmental characteristics and adolescent mental health will provide a clearer understanding of the impact of peer victimization on later psychological distress.

Adolescent languishing was measured using the continual measure of flourishing scale, constructed using non-missing responses for CDS respondents in 2002 or 2007. The scale was based on responses to emotional well-being, social well-being, and psychological well-being subscales (Keyes & Magyar-Moe, 2003). The variables were reverse-coded, and an adolescent languishing scale was created (Scale mean = 6.5, range = 1 - 16, α = .64).

To measure *Neighborhood Non-cohesion,* primary caregivers were asked about the likelihood a neighbor would do something if: (1) someone was trying to sell drugs to children, (2) kids were getting into trouble, (3) a child was showing disrespect to an adult, or (4) a child was stealing from a neighbor. Answers ranged from 1 = Very unlikely to 4 = Very likely. The variables were reverse-coded, and a neighborhood non-cohesion scale was created (Scale mean = 1.7, range = 1 - 4, α = .84). To measure *no close friends,* respondents answered "How close do you feel toward your friends?" (1 = not very close, fairly close).

In addition to the above variables, the analyses included demographic measures to control for other potentially spurious relationships. Demographic characteristics included dichotomous measures of *Sex* (1 = Female), *African American* (0=Non-Hispanic White, 1=African American), *Latinx* (0 = Non-Hispanic White, 1 = Latinx), *Female head of household* (1 = Female Head of adolescent Household). Socioeconomic status variables included continuous measures of adolescent head of household education status and adolescent household income. To measure *adolescent head of household education,* the head of household provided the highest grade of school completed in 2003 or 2007 interviews, and the responses ranged from 0 to 17 (0 representing no formal education and 17 representing any graduate work). Education was then divided into four categories (0 = less than high school, 1 = high school, 2 = more than high school, 3 = four-year degree or more). *Adolescent household income* was created by the PSID and measured using the household income from wages, social security, and investments in 2003 or 2007, and divided into quartiles (0 = up to $29,000, 1 = $29,001 to $54,600, 2 = $54,601 to $94,000, 3 = $94,001 or more). Respondent's *age* was a continuous variable measured at the time of the CDS interview in 2002 or 2007. Finally, the *number of children in the adolescent household* was measured by asking the head of household or representative in 2003 or 2007 for the number of persons living in the household from newborns through those 17 years of age Answers ranged from 0 – 18, and the continuous measure was then top coded at 6 or more children.

Analytic Strategy

Ordinary Least Squares (OLS) regressions were used to analyze the influence of adolescent peer victimization on individuals' psychological distress in emerging adulthood. The first model estimated the impact of peer victimization on psychological distress. The second

model adjusted for background and interpersonal characteristics and baseline adolescent mental health. The final model further adjusted for adolescent self-concept to assess whether it was a mediator between peer victimization and psychological distress. To assess whether the impact of peer victimization on mental health differed by the type of bullying, a parallel set of OLS regressions were used to analyze the subtypes of peer victimization and psychological distress. Additional analyses were conducted with different dimensions of the adolescent self-concept scale to understand how each aspect impacted emerging adults' mental health. The significance level for all the analyses was set as $p<.05$.

To test the mediation hypothesis, weighted Sobel-Goodman mediation tests were used (Sobel, 1982, 1986).The Sobel test has faced critiques in recent years because it is considered conservative and has low power, therefore the test only works well in large samples (Mackinnon, Warsi, & Dwyer, 1995**;** Preacher & Hayes, 2004). To address these criticisms, I used both the traditional Sobel test and the Sobel test with residual resampling bootstrap. I also utilized the Monte Carlo method, a favored method over the Sobel test, with a simulated population size of 50,000 to obtain the standard errors and confident intervals for the indirect effects in the mediation analysis. Together, the Sobel Mediation test, residual resampling bootstrap, and the Monte Carlo method provided a comprehensive analysis of the direct and indirect effects of self-concept in the association between adolescent peer victimization and emerging adult psychological distress.

Sample Characteristics

Descriptive statistics for all variables are shown in Table II.1. The average age of the sample at the time of adolescent interview was 15 years old and most of the sample was female (52%). Only slightly more one-tenth of the sample was Latinx while almost half of the same was

White American. Slightly under a third of the sample had adolescent household incomes of more than $94K and indicated the highest level of education of the head of the household was high school. Respondents reported an average score of 4.9 out of 22 on the Psychological Distress scale in emerging adulthood. On the peer victimization, on average adolescents reported a score of 1.9 out of a possible six, indicating relatively low levels of peer victimization. On average, the sample had a relatively high adolescent self-concept score of four out of five. The sample also reported an average score of 6.5 out of a possible sixteen on the adolescent languishing scale.

Table II.1: Weighted Sample Characteristics for Full Sample

Variable	Mean	SD
Emerging Adult Mental Health Outcome		
Psychological Distress	4.9	3.6
Adolescent Stressor		
Peer Victimization	1.3	0.5
Mediator		
Adolescent Self-Concept	4.0	0.6
Individual Characteristics		
Adolescent Age	15.4	1.5
Number of Children in Adolescent Household	2.1	1.1
Adolescent Neighborhood Non-cohesion	1.7	0.7
Adolescent Languishing	6.5	2.9
	N	%
Sex		
Male	670	47.3
Female	744	52.7
Race/Ethnicity		
White American	660	46.6
African American	585	41.4
Latinx	169	12.0
Adolescent Head of Household Education		
Less than High School	261	18.5
High School	429	30.4
Some College	326	23.0
College Degree or more	398	28.1
Adolescent Household Income		
Less than $29K	282	19.9
$29K to $54.6K	317	22.4

$54.6K to $94K	377	26.7
More than $94K	438	31.0
Female Head of Adolescent Household	326	23.1
No Close Friends in Adolescence	220	15.6

N = 1414 for all variables

Table II.2: OLS Regression Analyses of Self-Concept as a Mediator between Adolescent Peer Victimization and Emerging Adult Psychological Distress (N = 1414)

	Model 1			Model 2			Model 3		
	b	SD		*b*	SD		*b*	SD	
Intercept	3.83	.34		3.18	1.61		6.88	2.16	
Peer Victimization	.84	.25	***	.65	.26	*	.56	.26	*
Sex (1 = Female)				.68	.24	**	.71	.23	**
Race/Ethnicity (White American = reference group)									
African American				.27	.34		.37	.34	
Latinx				-.33	.40		-.27	.40	
Adolescent Head of Household Education (Less than High School = reference group)									
High School				-.08	.42		.01	.42	
Some College				-.09	.43		-.01	.42	
College Degree or more				-.04	.47		.04	.46	
Adolescent Household Income (Less than $29K = reference group)									
$29K to $54.6K				.36	.39		.37	.39	
$54.6K to $94K				-.06	.41		-.11	.41	
More than $94K				-.06	.44		-.10	.44	
Female Head of Adolescent Household				.04	.36		-.01	.36	
Adolescent Age				-.06	.09		-.06	.09	
Number of Children in Adolescent Household				-.01	.12		-.03	.12	
No Close Friends in Adolescence				.35	.38		.34	.36	
Adolescent Neighborhood Non-Cohesion				-.01	.17		.01	.17	
Adolescent Languishing				.21	.04	***	.11	.06	*
Adolescent Self-Concept							-.75	.32	*

Note: *p<.05 **p<.01 ***p<.001

RESULTS

Self-Concept mediates adolescent peer victimization and emerging adult mental health

Table II.2 predicts the coefficients from regression models exploring the associations between adolescent peer victimization and emerging adult psychological distress, and whether self-concept mediates the association. The first model demonstrates that peer victimization is significantly associated with psychological distress (þ=.84, p<.001). After accounting for covariates in the second model, peer victimization remains significantly associated with psychological distress although the addition of sex and baseline mental health variables explains some of the relationship (þ =.65, p<.05). Females report more psychological distress than males in the sample, and adolescent languishing is associated with higher levels of psychological distress. The final model shows that peer victimization is still associated with higher psychological distress, while females and adolescent languishing remain associated with more psychological distress in emerging adults (þ =.56, p<.05). Adolescent self-concept is significantly associated with less psychological distress and reduces the peer victimization coefficient, which suggests that self-concept is a partial mediator in the relationship. Formal mediation tests show that self-concept mediates approximately 14.2% of the relationship between peer victimization and psychological distress. The Monte Carlo Method confirmed the indirect effect of adolescent self-concept on the relationship between peer victimization and psychological distress (95% CI = [.15, .34]).

Table II.3: OLS Regression Analyses of Self-Concept
as a Mediator between Adolescent Peer Victimization Subtypes and Emerging Adult Psychological Distress (N = 1414)

	Model 1			Model 2			Model 3		
	b	SD		*b*	SD		*b*	SD	
Picked On	.29	.11	**	.22	.11	*	.17	.11	
Sex (1 = Female)				.59	.23	*	.63	.22	**
Adolescent Languishing				.22	.04	***	.11	.05	*
Adolescent Self-Concept							-.82	.31	**
Things Taken	.55	.26	*	.47	.24	*	.38	.24	
Sex (1 = Female)				.58	.23	*	.62	.22	**
Adolescent Languishing				.22	.042	***	.11	.05	*
Adolescent Self-Concept							-.83	.30	**
Hit	.32	.19	†	.29	.17	†	.24	.16	
Sex (1 = Female)				.60	.23	**	.65	.23	**
Adolescent Languishing				.22	.04	***	.11	.30	**
Adolescent Self-Concept							-.84	.30	**
Left Out	.64	.24	**	.39	.24		.35	.23	
Sex (1 = Female)				.51	.23	*	.57	.22	*
Adolescent Languishing				.21	.04	***	.10	.05	
Adolescent Self-Concept							-.84	.30	**

Note: †p<.10 *p<.05 **p<.01 ***p<.001
Models 2 and 3 adjusts for covariates

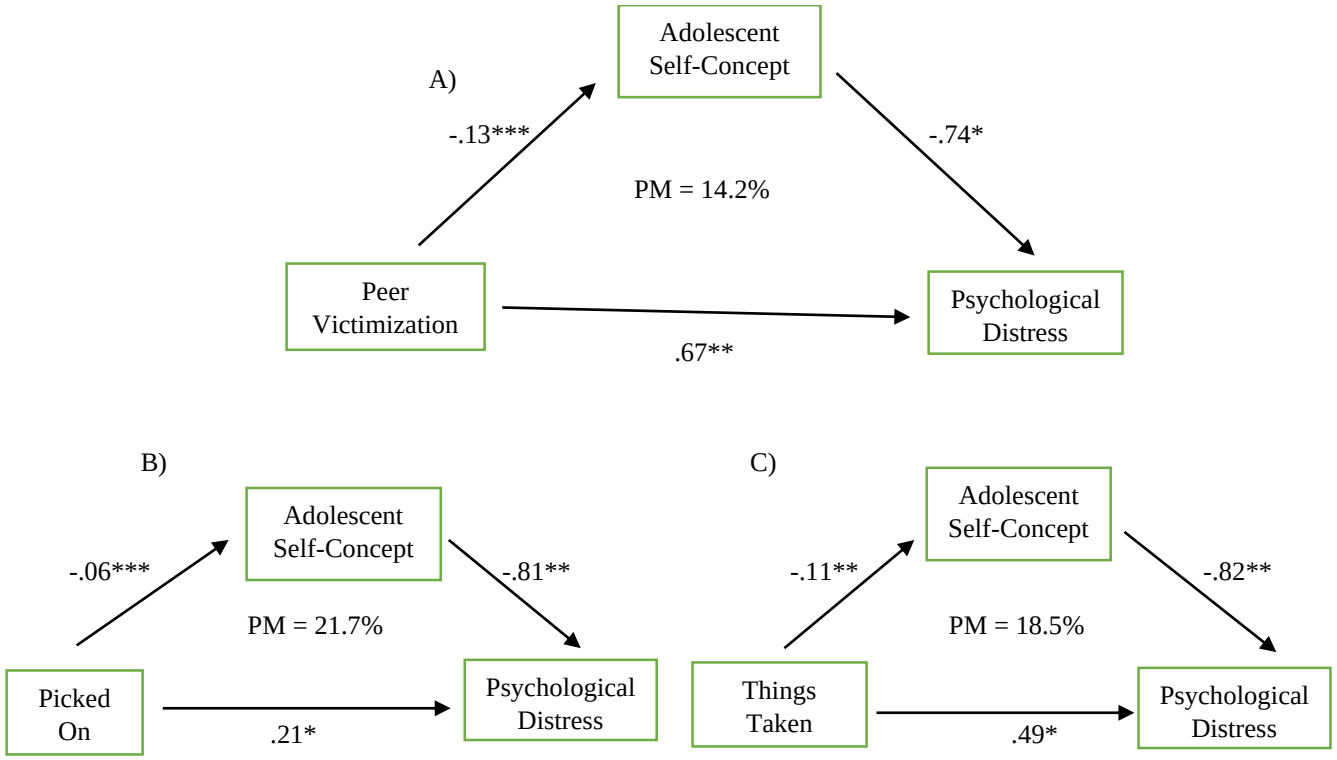


Figure II.1: Adolescent self-concept as a mediator between adolescent peer victimization and emerging adult psychological distress after adjusting for covariates

A) Self-concept mediates 14.2% of the relationship between peer victimization and psychological distress
B) Self-concept mediates 21.7% of the relationship between being picked on and psychological distress
C) Self-concept mediates 18.5% of the relationship between having your things taken and psychological distress

Note: *p<.05 **p<.01 ***p<.001

Self-Concept mediates subtypes of adolescent peer victimization and emerging adult mental health

To explore the impact of peer victimization subtypes on later psychological distress, the Peer Bullying Scale was disaggregated to assess each scale item. Table II.3 predicts the coefficients from OLS regression models between subtypes of peer victimization and emerging adult psychological distress, and the role of self-concept in the associations. Getting picked on and having your things taken are associated with higher psychological distress in the first model. The second model shows that getting picked on and having your things taken remain significantly associated with higher levels of psychological distress after accounting for covariates. Females and adolescent languishing are both significantly associated with more psychological distress and slightly reduce the association between getting picked on and having your things taken and psychological distress. The final model shows that getting picked on and having your things taken are no longer associated with psychological distress, and females and adolescent languishing continue to be associated with higher psychological distress. Adolescent self-concept is significantly associated with less psychological distress, suggesting that self-concept mediates the relationships between both getting picked on and having your things taken and psychological distress. Getting physically hit by peers is marginally associated with higher psychological distress in Model 1. Getting physically hit continues to be marginally significant in the second model. Females and adolescent languishing are also associated with more psychological distress. Model 3 shows that getting physically hit is no longer associated with psychological distress after accounting for self-concept, which indicates self-concept is a mediator between getting physically hit and later psychological distress although the relationship is marginal. Females and adolescent languishing continue to be associated with more psychological distress in emerging adulthood. Finally, socially exclusion is associated with

psychological distress in the first model, but the association is explained in the second model after adjusting for covariates.

Formal mediation tests found that self-concept mediates approximately 21.7% of the association between getting picked on and psychological distress, and the Monte Carlo Method confirmed the indirect effect of adolescent self-concept on the relationship (95% CI = [.06, .15]). Self-concept also mediates approximately 18.5% of the relationship between having your things taken and psychological distress, and the Monte Carlo Method confirmed the indirect effect of adolescent self-concept on the relationship (95% CI = [.05, .17]). These results suggest that self-concept mediates the relationship between some types of adolescent peer victimization and psychological distress but not all of them.

Supplemental Analyses

In supplemental analyses not shown, I disaggregated the adolescent self-concept scale for a better understanding of the aspects of self-concept that uniquely mediate the relationship between adolescent peer victimization and emerging adult psychological distress. I found that the social aspects of the scale—thinking you do things as well as most other people, and others thinking you are a good person—mediated the relationship after accounting for covariates.

Robustness Checks and Sensitivity Analyses

Studies have found that types of peer victimization adolescents experience vary by sex, and that sex can moderate the relationship between early-life victimization and adult mental health (Esbensen & Carson, 2009; McGee et al., 2011). Research has indicated that boys experience higher rates of involvement in direct and physical forms of bullying while girls are more likely to engage in relationship victimization in early adolescence (Esbensen & Carson, 2009). In analyses not shown, I conducted robustness checks to determine if sex moderated the

association between adolescent peer victimization and emerging adult psychological distress and found that generally it did not. I did find that getting picked on was significantly associated with psychological distress only for the males in the sample, and that self-concept mediated the relationship.

I also conducted analyses accounting for adolescent depressive symptoms and emotional well-being instead of adolescent languishing to account for baseline mental health. I used the Children's Depression Inventory (CDI) to measure adolescent depression, and the emotional well-being subscale derived from the Subjective Well-Being scale to measure adolescent emotional well-being **(**Keyes & Magyar-Moe, 2003; Kovacs, 1992). The results were similar to those presented.

In addition, I explored the associations between adolescent peer victimization and social anxiety in emerging adulthood as another indicator poor mental health but found no association between peer victimization and social anxiety.

DISCUSSION

This paper explored whether adolescent peer victimization contributes to psychological distress in emerging adulthood and the mediating role of self-concept. The hypothesis that adolescent peer victimization will contribute to the development of emerging adult psychological distress was supported. Adolescent bully victimization was associated with increased psychological distress in emerging adulthood even after accounting for potential confounders. The second hypothesis that adolescent self-concept will mediate the relationship between peer victimization and emerging adult psychological distress was partially supported. Formal mediation tests found that self-concept partially mediated the relationship between peer

victimization and psychological distress, meaning that peer victimization impacts later psychological distress through damaging adolescent self-concept.

These findings are consistent with previous research that found early-life peer victimization was associated with poor mental health in young- and mid-adulthood (Barchia & Bussey, 2010; Copeland et al., 2013; Sigurdson et al., 2015; Wolke et al., 2013). The finding about the mediating role of adolescent self-concept is consistent with research that found that early-life victimization can lead to lower self-concept, and that children who experience peer victimization often have lower self-concept than those uninvolved in victimization (Jenkins & Demeray, 2012; Turner et al., 2010). Individuals with negative views about themselves and chronic low self-esteem are at higher risk for mental health problems in adolescence and adulthood, and low self-concept and self-esteem can mediate peer victimization and internalizing problems in children (Boulton, 2013; Brendgen, 2018; Hill et al., 2010). This current work builds on that research by showing that adolescent self-concept can mediate the relationship between early-life peer victimization and mental health in emerging adults as well. Also, while recent research suggests that interventions to enhance victims' self-esteem should focus on children instead of adolescents, this current study shows that adolescent victims are still vulnerable and may need interventions to enhance their self-concept especially as they move into emerging adulthood (Hoffman et al., 2017; Tsaousis, 2016).

This study also found the relationship between adolescent peer victimization, self-concept, and emerging adult psychological distress varied by bullying subtype. I found that verbal victimization and peer harassment, i.e., having your things taken by peers, was associated with later psychological distress and that adolescent self-concept mediated the association. The finding about the impact of verbal victimization is consistent with prior literature. Verbal peer

victimization is associated with internalizing maladjustment in children and early adolescents, and low self-esteem has been found to mediate the link between verbal peer victimization during childhood and depression in young adults (Hawker & Boulton, 2001**;** Kodish et al., 2016). The finding about peer harassment was relatively consistent with past literature because previous research suggests all subtypes of victimization are related to internalizing maladjustment, but few studies have looked at having your things taken and mental health outcomes (Hawker & Boulton, 2001; Klomek et al., 2019). Verbal victimization and peer harassment may have a more lasting impact on psychological and emotional well-being than other forms of bullying because victims internalize feelings of being put down (e.g., verbal victimization) and shame (e.g., peer harassment), and these feelings may linger into adulthood and damage mental health.

Physical victimization was only marginally associated with long-term psychological distress and self-concept mediated that relationship. This finding confirms prior adolescent cross-sectional studies that found physical victimization showed no association with psychological maladjustment. It is possible that physical bullying has less severe psychological effects than other subtypes of victimization because victims may not internalize feelings of shame and worthlessness from being physically attacked in the same manner as verbal victimization or harassment. It is more likely that physical victimization operates differently than other bullying subtypes and may be associated with different long-term outcomes such as suicidal ideation and attempts or aggression (Klomek et al., 2019; McGee et al., 2011). The finding about physical victimization can provide an opportunity for researchers and educators to explore the processes linking this form of bullying to different psychological and adjustment outcomes.

An unexpected finding of this study was that social exclusion was not associated with emerging adult psychological distress. Previous studies found that relational victimization

predicted general and social anxiety in adolescents in cross-sectional and longitudinal studies (Boulton, 2013; Siegel et al., 2009). It is possible that relational victimization may be more strongly associated with anxiety symptoms than psychological distress, although robustness checks found no association between peer victimization and emerging adult social anxiety. It is likely that the relational victimization measure in the study inadequately captured the domain of this form of bullying because it only accounted for social exclusion; other dimensions of relational victimization (i.e., friendship withdrawal, and spreading rumors and gossip) may be associated with emerging adult psychological distress or social anxiety (Siegel et al., 2009). An alternative explanation is that the effects of adolescent social exclusion may not linger into emerging adulthood. Arseneault et al. (2010) found that bully victimization loses impact on mental health after the victimization ends, so it is possible that respondents are more socially connected in emerging adulthood and past relational victimization experiences no longer impact their mental health. Adults with social anxiety disorder may perceive themselves and their experiences more negatively than those without social anxiety disorder, which can impact their recall of childhood teasing and peer interactions (Levinson et al., 2013). Overall, the findings about peer victimization subtypes and the processes linking them to emerging adult psychological distress, contribute to gaps in the literature because while there are studies about the long-term correlates of childhood victimization, few of them have examined subtypes of peer victimization (Boulton, 2013).

After disaggregating the adolescent self-concept scale, I found the social aspects of self-concept uniquely impacted and mediated the relationship between peer victimization and emerging adult psychological distress. These findings are consistent with the looking-glass self theory, which asserts that individuals base their sense of self on how they believe others view

them (Cooley, 1902). This theory may be particularly salient in the adolescent developmental stage as individuals have heightened needs for belonging and acceptance from peers. Adolescents who are victims of bullying may internalize perpetrators' perceived feelings about them and interpret the victimization as evidence that they are inadequate and worthless. People who feel inadequate or unconfident are likely to develop psychological distress, which can impact their ability to make and maintain friendships, contributing to worse psychological distress and further damaging self-concept and mental health.

LIMITATIONS

While this study has several strengths including the prospective longitudinal design, there are several limitations. The bully victimization measure only accounted for traditional forms of bullying and excluded recent prominent forms of peer victimization such as cyberbullying. The bully victimization measure also relied on self-reports which places the answers risk bias, so it may have been helpful to utilize peers' and teachers' reports of peer victimization as well. The bias risk should be minimized since bully victimization is a stressor that is internalized; perceived victimization can still impact mental health regardless of the actual experience of victimization (Gromann, Goosens, Olthof, Pronk, & Krabbendam, 2013). I was unable to account for whether respondents were intermittent or chronic victims of bully victimization in the analyses because of sample size constraints. Although measures of intermittent and chronic peer victimization would have strengthened the study, the findings about peer victimization at a single point are still informative. There is also potential for reverse causality because peer victimization and self-concept were measured during the same period, and low self-concept may be both a consequence of and precursor to bully victimization (Esbensen & Carson, 2009; Kowalski & Limber, 2013). Finally, I was unable to account for whether respondents were

receiving mental health treatment, which could have led to more conservative estimates of the impact of bully victimization if a respondent had a mental health condition without experiencing recent psychological distress symptoms.

CONCLUSION

The current study has several strengths including examining the process linking adolescent peer victimization and emerging adult mental health and investigating different subtypes of peer victimization. This article has extended peer victimization and social stress scholarship by demonstrating that the consequences of adolescent bully victimization can linger and contribute to psychological distress in emerging adulthood. Peer victimization, especially peer harassment and verbal victimization, damages adolescent self-concept contributing to the development of psychological distress later in life. While collective adolescent self-concept is important for later mental health, the social aspects of self-concept are especially detrimental for mental and emotional health throughout the life-course.

The findings can be used to inform intervention programs and future research. Intervention and prevention programs can focus on reducing adolescent bully victimization and enhancing the self-concept of victims to reduce mental health problems in emerging adulthood. Adolescent intervention programs can emphasize peer support to help youth feel valued by others and develop confidence, while adult mental wellness programs can address former bully victims' self-concept and help them process their past peer victimization experiences. Future studies should continue to utilize prospective longitudinal data to examine potential mediating and moderating factors in the relationship between adolescent peer victimization and long-term mental health.

CHAPTER III

Early Life Adversity, Social Support, and Substance Misuse in Young Adulthood

INTRODUCTION

Early life adversity has significant impact on health behaviors and outcomes throughout the life course. Adverse childhood experiences (ACEs) are highly stressful and traumatic events that occur during childhood and adolescence, and approximately two-thirds of Americans report exposure to at least one type of childhood or adolescent adversity (Poole, Dobson, & Pusch, 2017). ACEs may include abuse, the death of a parent, household dysfunction, neglect, exposure to violence and crime, or the incarceration of a parent (Felitti et al., 1998). Childhood and adolescence are critical stages of life for cognitive, emotional, and psychological development (Sotero, 2015). Stressful events during these stages can disrupt a youth's development and well-being and contribute to the engagement of health-risk behaviors such as substance abuse or misuse that can cause or exacerbate physical and mental health conditions or premature death (Evans, Upchurch, & Grella, 2017; McHugh, Votaw, Sugarman, & Greenfield, 2018; Sotero, 2015). While the association between early life adversity and health-risk behaviors is well-established, knowledge about the complex pathways and protective factors in the association is limited. This study will explore gender differences in mental health through examining whether early life adversity contributes to substance misuse in men and women in young adulthood, and if social support moderates the relationship.

Exposure to adverse childhood experiences can lead to the development of substance misuse later in life. A pivotal study examining abuse and household dysfunction found that

individuals who experience early adversity tend to experience ACEs, and that higher exposure to these early life stressors contributes to cigarette smoking, alcoholism, and illicit drug use in mid-adulthood (Felitti et al., 1998). Subsequent research has replicated that landmark study and found that persons with higher cumulative exposure to early life adversity are at increased for substance use in adolescence and adulthood (Dube et al., 2003; Fox, Perez, Cass, Baglivio, & Epps, 2015; Sotero, 2015; Turner & Butler, 2003). These studies utilized a cumulative ACEs measure to understand the relationship between early life adversity and substance use and demonstrated the concrete effects that ACEs can have on substance misuse throughout the life course. A potential shortcoming of this approach is that it assumes that each category of adversity has equal weight and impact on those affected regardless of the type or severity of the adversity (Kalmakis & Chandler, 2014). A child may experience multiple types of adversities such as the death of a parent, physical abuse, and physical neglect, and a cumulative adversity measure would weigh all these experiences equally to predict the risk of that child developing health-risk behaviors and health problems later in life. However, it is likely that the mechanisms linking these experiences to subsequent outcomes vary based on the type of experience; experiencing physical neglect may impact an individual in a different manner than experiencing the death of a parent, which may lead to different outcomes (Kalmakis & Chandler, 2014). For a comprehensive understanding of the impact of early life adversity on substance misuse, further research is required to examine how the types of adversities impact substance misuse, in addition to the effects of cumulative adversity.

Research has started to examine the impact of specific types and categories of adversities on substance misuse. Some studies have investigated the effects of cumulative adversity and individual types of adversities on substance misuse, but researchers recognize that this approach may be problematic because adversities rarely occur independently from one another and are often comorbid (Fox et al., 2015). An alternative approach is to investigate domains of adversities, or a group of similar traumatic and stressful experiences within the same category (Kalmakis & Chandler, 2014). For example, physical, sexual, and emotional abuse can be categorized into a child abuse domain (Sotero, 2015). Studies that explore domains of adversities and substance abuse or misuse tend to focus on one or two domains at a time, specifically child abuse, neglect, or household dysfunction, while paying less attention to interpersonal loss and community challenges (Dube et al., 2003). Existing research on child abuse, neglect, and household dysfunction on substance abuse or misuse has been mixed, with some studies demonstrating that abuse and neglect predicts substance use disorders and drug use but no associations between other domains of adversities and substance use (Schilling, Aseltine, & Gore, 2007; Wolitzky-Taylor et al., 2017). We need more research on the long-term consequences of domains of adversities on substance use and to understand what factors may buffer or mitigate the impact of some adversities on these health-risk behaviors.

Psychosocial resources, such as social support, may be protective factors against the engagement in harmful substance misuse behaviors as consequences of early life adversity. Perceived social support focuses on the quality of social relationships and availability of trusted individuals who can provide a sense of belonging (Kim & Ross, 2009). Social support has been posited as a buffer that mitigates the negative effects of stressors for individuals experiencing trauma or stress, which can reduce the adoption of health-risk behaviors such as substance use as

coping strategies for high levels of stress and residual trauma (Brinker & Cheruvu, 2017; Steptoe, Wardle, Pollard, Canaan, & Davies, 1996). It has been suggested that the long-term consequences associated with early life adversity may be due in part to perceived low levels of social support and a lack of stable supportive adults in survivors' early lives (Brown & Shillington, 2017). Much of the research on stress and protective factors has focused on mental health outcomes, with fewer studies identifying the factors that could buffer against the effects of early life adversity on substance abuse (Bellis et al., 2017; Brown & Shillington 2017; Trickey, Siddaway, Meiser-Stedman, Serpell, & Field, 2012). The research that has examined the impact of social support on early life adversity and substance abuse or misuse has yielded mixed findings, with some studies finding that adolescent social support has long-term impact on reducing smoking and heavy drinking in adulthood (Nguyen, 2012; Sperry & Widom, 2013). Others found no evidence that social support moderated the relationship between early life abuse or neglect and substance use in young adulthood (Sperry & Widom, 2013). Further research is necessary to explore the potential factors and sources that may moderate the relationship between early life adversities and adult substance misuse to understand the impact of early life adversity and stress on health-risk behaviors throughout the life course.

The purpose of this study is to extend early life adversity and stress scholarship by examining the relationship between adverse childhood experiences, social support, and substance misuse in young adulthood. Utilizing longitudinal data from that National Longitudinal Study of Adolescent to Adult Health (Add Health), I explore whether exposure to early life adversities (ACEs) contributes to substance misuse in young adults, and whether perceived social support is a moderator in the relationship. I also examine whether the relationship between ACEs, substance misuse, and social support varies by the measurement of adversity (i.e., cumulative

adversity vs. domains of adversity). While there are several potential domains of ACEs, the domains examined in this study are: abuse, interpersonal loss, household challenges, physical neglect, and community challenges. Understanding the complicated relationship between early life adversity and substance misuse could improve interventions targeting psychosocial resources and substance use of those exposed to ACEs.

BACKGROUND

A life course approach to stress, adversity, and substance misuse

Social stress theory provides a general framework for understanding how stress might contribute to the development of substance misuse behaviors. The stress process model has incorporated life course principles to study how stressors and adversity experienced in early life can impact health later in life (Braveman & Barclay, 2009; Hill, Kaplan, French, & Johnson, 2010). Stressors, or events and situations that elicit physical, physiological, and psychosocial reactions, have been consistently found to predict poor mental health and health-risk behaviors across the life course (Cichy, Stawski, & Almeida, 2012; Hill et al., 2010; Turner & Butler, 2003). Early life adversity can create a "matrix of disadvantage," or initiate stress proliferation, which is the tendency for primary stressors to lead to additional stressors that accumulate and worsen over time (Nurius, Green, Logan-Greene, & Borja, 2015; Turner & Butler, 2003). The accumulation of stressors can lead to further adversity and poor mental health later in life, and individuals who experience these high levels of adversity may develop maladaptive coping strategies such as substance misuse to alleviate negative feelings associated with stress and trauma (Monnat & Chandler, 2015; Nurius et al., 2015). Harmful coping strategies may also be used to temporarily manage psychological stress, relieve symptoms associated with poor mental health, or to increase positive feelings and escape painful feelings associated with traumatic

event exposure (Brown & Shillington, 2017; Leeies, Pagura, Sareen, & Bolton, 2010). Smoking, heavy alcohol use, and drug use may be coping strategies that young adults use to manage stress and feelings associated with exposure to early life adversity.

The stress process model recognizes how psychosocial resources might buffer the impact of stressors and adversity on mental health and health-risk behaviors. Psychosocial resources (e.g., social support) can help explain how similar stressful conditions can be more or less detrimental to the health of individuals (Hill et al., 2010). The "buffering hypothesis" suggests that those who have social support and develop constructive strategies to cope with early life adversities have better mental and physical health outcomes (Sperry & Widom, 2013). Perceptions of social support may help buffer the psychological consequences of stressful life experiences by helping individuals feel cared for and encouraging constructive coping strategies such as seeking help from those they trust (Hill et al., 2010). Social support has been posited to be especially important for youth who are exposed to high levels of stress or severe adversity such as abuse and neglect, but not as important for youth who had not been exposed to trauma or adversity (Sperry & Widom, 2013). High levels of perceived social support can possibly attenuate or counteract the lingering impact of traumatic experiences and early life adversity and prevent the initiation of stress proliferation to encourage positive health outcomes and behaviors (Hill et al., 2010; Nguyen 2012; Sperry & Widom, 2013). Perceived social support may be a protective factor that can buffer the impact of early life adversity and stressors on health-risk behaviors such as substance misuse in young adulthood.

Consequences of early life adversity

Adversity and trauma that occurs early in life can shape health and life chances from childhood to adulthood. Early life adversities such as ACEs are chronic or acute experiences that

vary in severity, and cause distress that is harmful to the child or adolescent (Kalmakis & Chandler, 2014). Adverse childhood experienced are often cumulative and youth who are exposed to one type of early life adversity are typically exposed to multiple early life adversities (Kalmakis & Chandler, 2014; Poole et al., 2017). ACEs can occur within the family context such as household dysfunction or witnessing domestic violence, or within the community context such as peer victimization or witnessing community violence (Kalmakis & Chandler, 2014). Researchers have recognized that the foundations of adult health often develop early in life, and that early life adversity may be one of the causes of morbidity and mortality in adult life (Dube et al., 2003; Taylor, Way, & Seeman, 2011). Felitti et al. (1998) suggested that many of the leading causes of illness and premature death are related to or made worse by health-risk behaviors. Exposure to multiple early life adversities is associated with early-onset of psychological issues such as depression, post-traumatic stress disorder, anxiety, and conduct disorders (Fox et al., 2015). Psychological issues can lead to the development of health-risk behaviors in adolescence and adulthood, and these behaviors can be a pathway from early life adversity to negative health conditions and early mortality in later adulthood (Dube et al., 2003; Monnat & Chandler, 2015). It is important to understand how early life adversity and trauma may influence subsequent health-risk behaviors like substance misuse to potentially reduce negative health conditions later in life.

Early life adversity and substance use in young adulthood

Early life adversity is a well-established predictor of substance abuse and misuse, and substance misuse and abuse have long-term mental and physical health consequences. Substance misuse refers to improper or unhealthy use of legal or illegal drugs, prescribed medications, and alcohol that can cause harm to the user or their family and friends (U.S. Department of Health

and Human Services [HHS], National Institutes of Health [NIH], National Institute on Drug Abuse [NIDA], 2018). Substance "misuse" is roughly equivalent to the term "abuse", but the NIDA and healthcare professionals recommend using the term misuse because abuse is a term that is increasingly avoided by mental health advocates and professionals, as it can shame or contribute to stigma that prevents people from seeking help (NIDA, 2018). Cigarettes or tobacco use are considered legal drug use because the nicotine in cigarettes is highly addictive and provides individuals with a rush of energy and pleasure that can lead to people abusing cigarettes (NIDA, 2018). Some indicators of substance misuse include repeated use of drugs to produce pleasure, alleviate stress, and /or alter or avoid reality; it also includes using prescriptions drugs in ways other than prescribed (NIDA, 2018). Substance misuse or abuse typically begins in young adulthood, and over the subsequent years can develop into a substance use disorder (Schulte & Hser, 2014). These disorders and substance misuse can persist for substantial periods of life and cause or exacerbate other health conditions such as cancers, liver disease, cardiovascular disease, and depression (Evans et al., 2017; McHugh et al., 2018). Chronic and acute stress are risk-factors in the engagement in substance misuse; in fact, childhood adversity and stress have been identified as major factors that have lasting effects on substance use (White & Widom 2008). Evidence suggests that individuals with exposure to more ACEs often engage in multiple health-risk behaviors including multiple forms of substance use (Monnat & Chandler 2015). It is imperative to understand how early life adversity impacts substance misuse to design effective interventions that target young adults who were exposed to ACEs and substance misuse before it turns into substance use disorders and lead to premature mortality and negative health conditions.

The impact of early life adversity on substance misuse varies by the measure and type of adversity. Young and midlife adults with higher cumulative early life adversity tend to report the highest risk of smoking, heavy alcohol use, binge drinking, and illicit drug use and addiction (Campbell, Walker, & Egede, 2016; Dube et al., 2003; Felitti et al., 1998; Monnat & Chandler, 2015; Shin, McDonald, & Conley, 2018; Sotero, 2015). A recent study found that young adults who experienced multiple types of early life adversities were more likely to report alcohol-related problems than young adults who mainly experienced emotional or family-/community-based adversities (Shin et al., 2018). These studies suggest that exposure to multiple ACEs is a more important predictor of later substance use than the type or domain of adversity experienced (Shin et al., 2018). However, other studies have found that domains or types of adversities can have independent effects on substance misuse that differ from the cumulative adversity effects. One study found while the odds of smoking and heavy drinking increases as exposure to ACEs increases, verbal and sexual abuse, residing with a substance misuser, and experiencing parental separation or divorce were independently associated with higher odds of smoking (Campbell et al., 2016). Studies have also found that verbal and emotional abuse can have independent effects on binge-drinking and substance use disorders in addition to cumulative adversity, which suggests that the domains or types of adversities may impact substance use through different mechanisms (Campbell et al., 2016, Wolitzky-Taylor et al., 2017). Further research is essential to understand the early life experiences associated with long-term substance misuse and to discover the factors that may link or buffer the impact of some traumatic experiences on these health-risk behaviors (Campbell et al., 2016). It is important to understand how the relationship between early life adversity and substance misuse varies by adversity measures and types of substance misuse as well as moderators in the relationships.

Social support, early life adversity, and substance misuse

Perceived social support can have positive impact on stressful conditions and health behaviors. Social support is the sense of being valued as a person and having someone to trust will help in stressful times (Kim & Ross, 2009; Taylor & Broffman, 2011; Wight, Botticello, & Aneshensel, 2006;). Youth with high levels of perceived social and parental support often report lower levels of depression and substance use than those with less support (Colman et al., 2014; Kim & Ross, 2009; Taylor & Broffman, 2011). Social support can also buffer the effects of early life adversity on mental health because people are available to assist and support those in need, which often results in better mental health and coping strategies that can encourage health-promoting behaviors (Brinker & Cheruvu 2017; Colman et al., 2014; Taylor & Broffman, 2011; Wight et al., 2006). Adolescents and adults who were exposed to ACEs and reported more community and emotional support in early life are less likely to report depression and psychological distress than their counterparts who had perceived low social support (Brinker & Cheruvu, 2017; Hill et al., 2010; Logan-Greene, Green, Nurius, & Longhi, 2014; Nurius et al., 2015). The positive and moderating effect of social support between early life adversity and poor mental health may be able to extend to substance misuse.

There is relatively little empirical work on the potential moderating effects of social support between early life adversity and young adult substance use and abuse. Social support may be considered a coping option that can ameliorate health-risk behaviors and moderate the relationship between ACEs and negative health outcomes (Colman et al., 2014; Fox et al., 2015). While adverse childhood experiences such as abuse and neglect may constitute "toxic stress" that threatens long-term development and well-being, the presence of protective relationships, specifically those that facilitate adaptive coping skills may reposition ACEs as "tolerable stress"

(Brown & Shillington, 2017). Research on the moderating role of social support between early life stressors and subsequent substance use have been mixed, with some studies suggesting that supportive networks reduce long-term substance use, and other studies finding no association (Brown & Shillington 2017; Mc Elroy and Hevey, 2014). A recent study found that protective adult relationships during adolescence moderates the association between ACEs and subsequent substance abuse in late adolescence, such that cumulative early life adversity is related to high levels of substance abuse in adolescents who reported few protective adult relationships (Brown & Shillington, 2017). The importance of adolescent social support may extend to adult substance use, with a few studies demonstrating that the availability of parental or trusted adult support in adolescence can mitigate the risk of smoking and heavy drinking in adults who were exposed to multiple ACEs (Bellis et al., 2017; Nguyen, 2012). While these studies suggest that enhancing the support systems of youth who have experienced ACEs may help reduce subsequent substance abuse, other studies have found no evidence of social support moderating the risk of substance abuse that may develop from early adverse events (Sperry & Widom, 2013). ACEs often occur within the family context and can have lifelong consequences for trust and intimacy and disrupt social networks, making it difficult for victims to access the amount or kind of social support needed to process and cope with feelings from negative events (Pinto et al., 2017; Sotero, 2015). It is possible that difficulty accessing support and trusting others can lead to perceived low levels of support for those who experienced early life adversity. Perceived low levels of support may contribute to some individuals turning to substance use as coping strategies for feelings associated with the early life adversities or loneliness from feeling like they have few social support resources.

Current Study

To build upon the past research, I pursue the following questions: 3) Does cumulative early life adversity (i.e., ACE score) contribute to heavy alcohol use, cigarette smoking, or illicit drug use in young adulthood? 4) Does perceived social support moderate the relationship between cumulative early life adversity and heavy alcohol use, cigarette smoking, and illicit drug use? 5) Do different domains of early life adversities (i.e., interpersonal loss, household challenges, abuse, community challenges, and physical neglect) contribute to specific types of substance use in young adulthood? 6) Does perceived social support moderate the relationships between domains of early life adversities and substance misuse in young adulthood? Based on prior literature, I hypothesize that cumulative early life adversity will contribute to higher odds of all three types of substance misuse and that social support will moderate the relationship. Young adults who experienced early life adversity and had higher perceived social support will have lower odds of substance misuse than their counterparts who experienced adversity and had low perceived social support. I also posit that the domains of early life adversities will be uniquely associated with substance misuse, meaning that some domains may be associated with some substance misuse behaviors while others may not. I also hypothesize that social support will moderate the relationship between some domains and substance use, such that higher levels of social support will be associated with lower substance use among adults who experienced a domain of adversity.

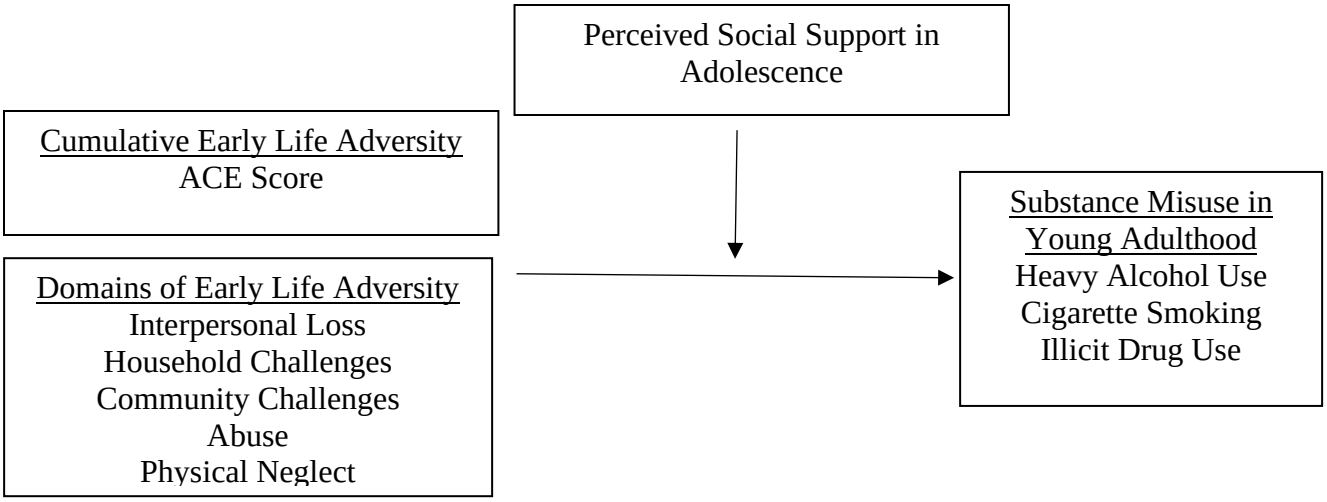


Figure III.1: Conceptual model of the relationship between early life adversity, adolescent social support, and substance misuse in young adulthood

DATA AND METHODS

Data

Data for this study was obtained from the National Longitudinal Study of Adolescent to Adult Health (Add Health). Add Health is a nationally representative sample of US adolescents, their families, and schools (Harris, Halpern, Smolen, & Haberstick, 2006). The longitudinal study included information about the developmental and health trajectories of adolescents into adulthood, including stressors and support in adolescence and health behaviors and outcomes in adulthood. The baseline survey of adolescents who were enrolled in middle or high school took place in the 1994-1995 academic year. First, in-school questionnaires were completed by over 90,000 students. From school rosters and the students who completed the in-school survey, a subset of adolescents was selected randomly to complete an in-home survey. The Wave I in-home interviews were conducted in 1995 and consisted of 20,745 respondents. A parent survey was also conducted to gather additional contextual data about adolescents' lives and asked about neighborhood characteristics, child and parent health conditions and health-related behaviors,

parent socioeconomic position characteristics, and parent-adolescent communication and interaction (Harris, 2013).

Adolescents were initially interviewed when they were in grades 7 through 12 and then followed in subsequent surveys into young adulthood, or ages 24-34 years old. The subsequent surveys were conducted in 1996 (Wave II), 2001-2002 (Wave III), and 2007-2008 (Wave IV). The sample consisted of 15,701 respondents who completed both Wave I and IV surveys. However, after linking respondents through Waves I, III, and IV and dropping cases with missing data on key variables or those without valid sampling weights, the sample was reduced to 7691.

Measures

Substance Misuse

Heavy alcohol use was measured in young adulthood by asking respondents to "think of all the times you have had a drink during the past 30 days. How many drinks did you usually have each time?" A dichotomous variable was created (1 = 4+ drinks for women or 5+ drinks for men, Burdette, Needham, Taylor, & Hill, 2017).

To measure c*igarette smoking,* respondents in young adulthood were asked: "During the past 30 days, on how many days did you smoke cigarettes?" A dichotomous variable was created (1 = 1 day or more, Burdette et al.,2017).

Illicit drug use was measured by asking respondents in young adulthood: (1) Have you ever taken any prescription drugs that were not prescribed for you, taken prescription drugs in larger amounts than prescribed, more often than prescribed, for longer periods than prescribed, or taken prescription drugs that you took only for the feeling or experienced they caused? (2) Have you ever used cocaine (crack, coca leaves)? (3) Have you ever used crystal meth (ice)? (4) Have

you ever used other types of illegal drugs, such as LSD, PCP, ecstasy, heroin, mushrooms, or inhalants?" A composite variable was constructed (1 = yes on any response, Needham, 2007).

Early Life Adversity

Cumulative early life adversity was composed of twelve indicators that were derived from respondents in Waves I, III, and IV to determine if a particular ACE was present (1= yes) or not present (0 = no). These include death of a parent or sibling, incarceration of parent or parent-figure, family mental illness, illegal drugs easily available in the household, parental divorce or separation, parental alcoholism, feeling unsafe in school, victim of community violence, sexual abuse, physical abuse, emotional abuse or neglect, and physical neglect (Felitti et al., 1998; Kalmakis & Chandler, 2014). The 12 individual adversity items were summed to create a cumulative ACE score with higher scores representing greater early life adversity (alpha = .71).

Domains of early life adversity included five categories of adversities: abuse, physical neglect, interpersonal loss, household challenges, and community challenges.

Abuse was measured by three questions measuring physical, sexual, and emotional abuse. Respondents in Wave III were asked retrospectively: (1) "Before your 18th birthday, how often did a parent or adult caregiver hit you with a fist, kick you, or throw you down on the floor, into a wall, or down stairs?" (1 = two times or more, Monnat & Chandler, 2015). (2) "Before your 18th birthday, how often did a parent or other adult caregiver touch you in a sexual way, force you to touch him or her in a sexual way, or force you to have sexual relations? The variable was recoded as dichotomous (1=any number of times reported sexual abuse, Monnat & Chandler, 2015). (3) "Before your 18th birthday, how often did a parent or other adult caregiver say things that really hurt your feelings or made you feel like you were not wanted or loved?" The variable

was recoded as dichotomous (1= two times or more, Monnat & Chandler, 2015). The abuse domain was then coded as 1 = any form of abuse.

Physical Neglect was measured by asking respondents retrospectively in Wave III the following: (1) how often had your parents or other adult caregivers not taken care of your basic needs, such as keeping you clean or providing food or clothing? (1= two times or more, Monnat & Chandler, 2015)

Interpersonal loss was composed of parental incarceration and death of a parent, parent-figure, or sibling. In Wave IV, respondents were asked: (1) Has/did your biological mother every spend/spend time in jail or prison? (2) Has/did your biological father every spend/spend time in jail or prison? (3) Has/did your mother figure ever spent/spend time in jail or prison? (4) Has/did your father figure ever spent/spend time in jail or prison? (5) Is your biological mother still alive? (6) Is your mother figure still alive? (7) Is your biological father still alive? (8) Is your father figure still alive? (8) How many (siblings) have died? A composite variable was constructed (1 = yes on parental incarceration, parental death, or sibling death, Sotero, 2015).

Household challenges was measured by family mental illness or struggles, substance misuse in the household, parental divorce or separation, and parental alcoholism. As an indicator of family mental illness, respondents were asked in Wave I if any family member tried to kill themselves in the past 12 months (1=yes, Sotero, 2015). To measure substance misuse in the home, respondents were asked: Are illegal drugs easily available to you in your home? (1= yes, Dube et al., 2003). Parental divorce or separation was measured by asking respondents' parents and caregivers: What is your current marital status? (1=widowed, divorced, or separated, Kalmakis & Chandler, 2014; Sotero, 2015). To measure parental alcoholism, respondents were

asked in Wave I if their biological mother or father has alcoholism (1= yes, Felitti et al., 1998). A composite variable was constructed (1 = yes on any challenge).

Community challenges was composed of lack of school safety and community violence. Respondents were asked in Wave I: (1) Do you usually feel safe in your school? (2) How often in the past 12 months, someone pulled a knife or gun on you. A composite variable was constructed (1= feels unsafe in school or someone pulled knife or gun).

Social Support

Perceived social support was measured by asking respondents in Wave I: How often was each of the following things true during the past week? (1) You felt people disliked you (2) People were unfriendly to you (3) You felt lonely (0=never or rarely, 1=sometimes, 2=a lot of the time, 3= most of the time or all of the time). Another set of questions asked: (4) how much do you feel that adults care about you? (5) How much do you feel that your teachers care about you? (6) How much do you feel that your parents care about you? (7) How much do you feel that your friends care about you? (8) How much do you feel that people in your family understand you? (9) How much do you feel that you and your family have fun together? (10) How much do you feel that your family pays attention to you? (1=not at all, very little, somewhat, quite a bit, very much). The last question asked: On the whole, how happy are you with living in your neighborhood? (1=not at all, 2=very little, 3= somewhat, 4= quite a bit, 5=very much). The items were reverse coded so that positive responses had higher values and the negative responses had lower values (Nguyen, 2012; Wight et al., 2006). A scale was constructed by averaging across all the items (alpha = .81, range 1 - 5).

Controls

Demographics included dichotomous measures of African American (0=Non-Hispanic White, 1=African American), Latinx (0=Non-Hispanic White, 1=Latinx). Respondent's age was a continuous variable measured in Wave IV. Socioeconomic characteristics in young adulthood included a dichotomous measure of full-time employment (1= 35 or more hours work per week). Educational attainment was a continuous measure to indicate the highest level of education achieved ranging from less than 8th grade to post-baccalaureate professional education. A categorical measure of adult household income included the total income of everyone who lived in the household before taxes and deductions and ranged from less than $5000 to $150,000 or more. Relationship and parent status was measured by asking respondents in Wave IV if they had ever been married and had any children. A joint variable was created (0=ever married and has children, 1=ever married but does not have children, 2=never married and had children, 3=never married and does not have children). Physical Exam was measured by asking the respondent in Wave IV: how long ago did you last have a routine check-up? (1= less than 2 years ago). Early life socioeconomic variables included continuous measures of parental education and adolescent household income. Parental education was then divided into four categories (0=Less than High School, 1=High School or Equivalent, 2=Some College, 3=Four-year degree or more). Adolescent household income ranged from $0 to $999,000 and was recoded to be comparable to the adult household variable (Less than $5000 to $150,000 or more). The variable was then logged to offset skewness. Adolescent heavy alcohol use at baseline in Wave 1 was measured by asking respondents to "think of all the times you have had a drink during the past 12 months. How many drinks did you usually have each time?" A dichotomous variable was created (1 = 4+ drinks for women or 5+ drinks for men, Burdette et al., 2017). Cigarette smoking at baseline in Wave I was measured by asking respondents: "During the past 30 days, on how many days did

you smoke cigarettes?" A dichotomous variable was created (1 = 1 day or more, Burdette et al.,2017). Illicit drug use at baseline in Wave I was measured by asking respondents: (1) During your life, how many times have you used cocaine? (2) During your life, how many times have you used inhalants, such as glue or solvents? (3) During your life, how many times have you used any of these types of illegal drugs [LSD, PCP, ecstasy, mushrooms, speed, ice, heroin, or pills, without a doctor's prescription]? A composite variable was constructed (1 = 1 time or more on any response).

Analytic Strategy

The exposure to early life adversities, role of social support, and risk for substance misuse may differ for men and women. To account for the variation in the relationships between the key variables, I conducted gender-stratified analyses for a better understanding the relationship between early life adversity, substance misuse, and social support.

Gender-stratified logistic regressions were used to analyze the relationship between early life adversity, social support, and substance in young adulthood. The first set of analyses examined cumulative early life adversity, social support, and substance misuse. For each type of substance misuse, the first model estimated the effect of ACE score on the behavior while adjusting for sociodemographic and background characteristics. The second model accounted for perceived social support to assess whether social support was associated with substance misuse. The final model included an interaction term between social support and ACE score to determine whether social support is a moderator in the relationship between cumulative early life adversity and young adult substance misuse.

To assess whether the impact of early life adversity and social support on substance misuse varied by the domain of adversity, a similar set of logistic regressions were analyzed. For

each substance misuse behavior, the first model estimated the domain of adversity on the behavior while controlling for sociodemographic and background characteristics and cumulative early life adversity (ACE score). The second model adjusts for perceived social support and the final model adds the interaction between social support and the domain of adversity. The significance level of all the analyses was set at $p < .05$.

Table III.1: Weighted Descriptive statistics for all study variables

	Full Sample (N = 7691)		Women (N = 4168)		Men (N = 3493)	
	Mean (SD)	Proportion	Mean (SD)	Proportion	Mean (SD)	Proportion
Characteristics of Respondents						
Substance Misuse Outcomes						
Heavy Alcohol Use		.18		.17		.26
Cigarette Smoking		.37		.34		.41
Illicit Drug Use		.06		.05		.08
Early Life Adversity						
Cumulative ACE Score	2.16 (1.63)		2.14 (1.63)		2.18 (1.63)	
Domains of Early life Adversity						
Interpersonal Loss		.19		.19		.18
Household Challenges		.34		.35		.32
Abuse		.50		.52		.47
Community challenges		.43		.39		.47
Physical Neglect		0.30		0.28		0.32
Moderator						
Social Support	3.74 (.44)		3.74 (.45)		3.75 (.44)	
Individual Characteristics						
Race/Ethnicity						
White American		.77		.76		.76
African American		.13		.14		.13
Latinx		.10		.10		.11

Marital and Children Status			
Ever married with children	.34	.38	.29
Ever married without children	.17	.17	.16
Never married with children	.14	.15	12
Never married without children	.36	.29	.43
Parental Education Status			
Less than High School	.13	.14	.12
High School or Equivalent	.33	.33	.32
Some College	.29	.28	.31
4-year degree and more	.25	.25	.25
Full-time Employment	.86	.81	.90
Health Examination	.74	.83	.63
Prior Substance Miususe			
Adolescent alcohol use	.21	.20	.22
Adolescent cigarette smoking	.27	.27	.26
Adolescent drug use	.02	.01	.03
Logged Childhood Household Income	3.58 (.80)	3.59 (.80)	3.58 (.79)
Adult Household Income	8.15 (2.58)	8.05 (2.62)	8.25 (2.54)
Education Status	5.82 (2.18)	6.08 (2.17)	5.55 (2.16)
Age	28.14 (1.82)	28.04 (1.79)	28.23 (1.84)

RESULTS

Sample Characteristics

Descriptive statistics for all variables are shown in Table III.1. The average age of respondents was 28 years old at the time of Wave IV, and most of the sample was White American (77%). Slightly more than a third of the sample were cigarette smokers (37%) and about one-fifth of the sample reported heavy alcohol use (18%) at Wave IV. Illicit drug use was the least reported substance misuse with only six percent of the sample engaging in any kind of

illicit drug use. Men reported higher levels of engagement in all forms of substance misuse than women in the sample. On average, respondents were exposed to about two childhood adversities (Mean = 2.16) with half of the sample reporting some form of abuse in early life. More women reported some form of abuse than men at 52% compared to 47%. More than a third of the sample experienced household challenges, with more women reporting them than men. More than 40% of the sample reported community challenges, with more men exposed to them than women, at 47% and 39%, respectively. Three-tenths of the sample experienced physical neglect in early life with slightly more men reporting it at 32% compared to women at 28%. About one-fifth of the sample experienced interpersonal loss early in their lives. The sample had relatively high levels of perceived social support with a mean of 3.74. About 20% of the sample engaged in heavy alcohol use and cigarette smoking during adolescence, while only 2% engaged in illicit drug use in that period.

Relationship between cumulative early life adversity, social support, and substance use

Table III.2 shows results from the logistic regression analysis examining the relationship between ACE score, social support, and heavy alcohol use for men and women.

For men, ACE score was not associated with heavy alcohol use. African American men reported lower odds of heavy alcohol use than their White American men counterparts ($p < .001$). Age was associated with lower odds of heavy alcohol use ($p < .001$). Men who had been married but do did have children reported lower odds of heavy alcohol use than those who have been married and have children ($p < .01$). Men who have never married reported higher odds of heavy alcohol use regardless of whether they had children than men who had been married and have children ($p < .05$). Adult household income was associated with slightly higher odds of heavy alcohol use ($p < .05$). Education was associated with lower heavy alcohol use ($p < .001$).

Table III.2: Logistic regression models for the relationship between ACE score, social support, and heavy alcohol use

	Men						Women					
	Model 1A		Model 1B		Model 1C		Model 2A		Model 2B		Model 2C	
	OR (95% CI)		OR (95% CI)		OR (95% CI)		OR (95% CI)		OR (95% CI)		OR (95% CI)	
ACE Score	1.02 (.95, 1.11)		1.03 (.95, 1.12)		1.00 (.80, 1.23)		1.10 (1.01, 1.20)	*	1.09 (1.01, 1.18)	*	1.08 (.85, 1.38)	
Race/Ethnicity (ref = White)												
African American	.35 (.24, .51)	***	.35 (.24, .51)	***	.35 (.24, .51)	***	.39 (.26, .59)	***	.39 (.26, .59)	***	.40 (.26, .59)	***
Latinx	.89 (.62, 1.27)		.89 (.62, 1.27)		.89 (.62, 1.27)		.61 (.38, .97)	*	.61 (.38, .97)	*	.61 (.38, .98)	*
Age	.80 (.75, .86)	***	.81 (.75, .86)	***	.81 (.75, .86)		.92 (.86, .99)	*	.92 (.86, .99)	*	.92 (.86, .99)	*
Relationship and Parent Status (ref = Ever married with children)												
Ever married without children	.59 (.41, .84)	**	.59 (.41, .84)	**	.59 (.41, .84)	**	1.31 (.89, 1.93)		1.31 (.90, 1.93)		1.32 (.90, 1.93)	
Never married with children	1.58 (1.06, 2.36)	*	1.59 (1.07, 2.38)	*	1.60 (1.07, 2.38)	*	2.62 (1.80, 3.81)	***	2.62 (1.80, 3.81)	***	2.64 (1.81, 3.83)	***
Never married without children	1.37 (1.05, 1.80)	*	1.37 (1.05, 1.80)	*	1.37 (1.04, 1.80)	*	1.82 (1.34, 2.46)	***	1.82 (1.34, 2.46)	***	1.83 (1.35, 2.47)	***
Parental EDU (ref = Less than HS)												
High School or Equivalent	1.12 (.75, 1.66)		1.11 (.75, 1.66)		1.11 (.75, 1.65)		.89 (.59, 1.34)		.89 (.59, 1.34)		.89 (.59, 1.35)	
Some College	1.18 (.78, 1.77)		1.17 (.78, 1.76)		1.17 (.78, 1.76)		1.03 (.68, 1.57)		1.03 (.68, 1.57)		1.04 (.68, 1.58)	
4-year degree and more	.99 (.63, 1.55)		.99 (.63, 1.55)		.99 (.63, 1.55)		.88 (.54, 1.43)		.88 (.54, 1.43)		.88 (.54, 1.43)	
Full-time Employment	1.30 (.87, 1.93)		1.31 (.88, 1.94)		1.31 (.88, 1.94)		1.26 (.92, 1.71)		1.26 (.93, 1.71)		1.25 (.92, 1.70)	

Health Examination	.82 (.66, 1.03)		.82 (.65, 1.02)		.82 (.65, 1.02)		.66 (.49, .88)	**	.66 (.49, .88)	**	.66 (.49, .87)	**
Logged Childhood Household Income	.97 (.80, 1.16)		.97 (.80, 1.17)		.97 (.80, 1.17)		1.08 (.90, 1.28)		1.08 (.90, 1.28)		1.08 (.90, 1.28)	
Adult Household Income	1.06 (1.01, 1.12)	*	1.06 (1.01, 1.12)	*	1.06 (1.01, 1.12)	*	.98 (.93, 1.02)		.98 (.93, 1.02)		.98 (.93, 1.03)	
Education Status	.91 (.85, .96)	***	.91 (.85, .96)	***	.91 (.85, .96)	***	.92(.86, .98)	*	.92 (.86, .98)	*	.92 (.86, .98)	*
Adolescent Alcohol Use	2.27 (1.76, 2.94)	***	2.32 (1.79, 3.00)	***	2.31 (1.79, 3.00)	***	1.76 (1.32, 2.36)	***	1.76 (1.31, 2.36)	***	1.76 (1.32, 2.37)	***
Social Support			1.15 (.89, 1.50)		1.12 (.84, 1.50)				.98 (.75, 1.27)		1.13 (.72, 1.76)	
ACE Score x Social Support					1.01 (.95, 1.08)						1.00 (.93, 1.09)	

Note:
†p<.10 *p<.05 **p<.01 ***p<.001

Men who reported heavy drinking in adolescence has increased odds of heavy alcohol use in young adulthood ($p < .001$). Childhood socioeconomic characteristics or having a physical health exam were not associated with heavy alcohol use. Overall, there was no relationship between ACE score, social support, and heavy alcohol use in men.

For women, ACE score was associated with increased risk of heavy alcohol use in Models 2A and 2B (OR=1.10, 95% CI = 1.01, 1.20 and OR=1.09, 95% CI = 1.01, 1.18 respectively). African American women and Latinas had lower odds of heavy alcohol use than White American women ($p<.001$ and $p<.05$, respectively). Age was associated with lower odds of heavy alcohol use ($p<05$). Women who had never married with or without children had increased odds of heavy alcohol use than those who had been married and had children ($p<.001$). Having a physical health exam and more education were associated with lower likelihoods of heavy alcohol use. Women who reported heavy drinking in adolescence had increased risk of heavy alcohol use in young adulthood ($p<.001$). Childhood socioeconomic characteristics and adult household income were not associated with heavy alcohol use. Overall, ACE score was associated with heavy alcohol use in women until adjusting for a moderating effect of social support in the model, but social support was not a moderator in the relationship nor associated with heavy alcohol use.

Table III.3 presents the results from the gender-stratified logistic regression models for the relationship between ACE score, social support, and cigarette smoking.

For men, ACE score was not associated with cigarette smoking. Age, adult household income, and education were associated with lower odds of cigarette smoking. Men who had never married (regardless of whether they had children) had a greater risk of cigarette smoking than those who had married and had children. Childhood household income was associated with

higher odds of cigarette smoking (p< .05). Men who smoked in adolescence were more likely to smoke in young adulthood (p<.001). Having a physical health examination was associated with lower odds of smoking but loses significance after adjusting for social support. Social support was not associated with smoking.

For women, ACE score was associated with higher odds of cigarette smoking until accounting for the potential moderating effect of social support in Model 2C. African American women and Latinas reported lower odds of cigarette smoking than White American women (p<.001). Age, having a physical health exam, adult household income, and education were associated with lower odds of cigarette smoking. Those who had never married with or without children had higher odds of cigarette smoking than women who had married and had children (p<.001). Adolescent cigarette smoking was associated with five-fold higher odds of smoking in young adulthood (p<.001). Social support was not associated with cigarette smoking and was not a moderator in the relationship between ACE score and smoking in women.

Table III.4 shows the results from logistic regressions for the relationship between cumulative early life adversity, social support, and illicit drug use.

In men, ACE score was associated with higher odds of illicit drug use in Model 1A (OR=1.17, 95% CI = 1.05, 1.29). African American men had lower odds of illicit drug use than White American men. Men who had married and had no children reported lower odds of illicit drug use than their married men counterparts with children (p<.001). Full-time employment and education were associated with lower odds of illicit drug use. Model 1B demonstrated that ACE score continued to be associated with increased risk of illicit drug use (OR=1.15, 95% CI = 1.0, 1.29). African American men and those who had married without children still had lower odds of illicit drug use than their White American and married with children counterparts.

Table III.3: Logistic regression models for the relationship between ACE score, social support, and cigarette smoking

	Men						Women					
	Model 1A		Model 1B		Model 1C		Model 2A		Model 2B		Model 2C	
	OR (95% CI)		OR (95% CI)		OR (95% CI)		OR (95% CI)		OR (95% CI)		OR (95% CI)	
ACE Score	1.06 (.98, 1.14)		1.05 (.97, 1.13)		.96 (.79, 1.17)		1.14 (1.06, 1.23)	***	1.13 (1.06, 1.23)	***	1.11 (.91, 1.35)	
Race/Ethnicity (ref = White American)												
African American	.92 (.67, 1.25)		.92 (.67, 1.26)		.91 (.68, 1.27)		.41 (.30, .57)	***	.41 (.30, .57)	***	.41 (.30, .57)	***
Latinx	.89 (.63, 1.26)		.89 (.63, 1.25)		.90 (.64, 1.27)		.51 (.36, .73)	***	.51 (.36, .73)	***	.51 (.36, .73)	***
Age	.87 (.82, .92)	***	.86 (.82, .92)	***	.86 (.81, .91)	***	.93 (.88, .99)	*	.93 (.88, .99)	*	.93 (.88, .99)	*
Relationship and Parent Status (ref = Ever married with children)												
Ever married without children	1.00 (.73, 1.38)		1.00 (.73, 1.38)		.99 (.72, 1.38)		1.06 (.77, 1.46)		1.06 (.77, 1.46)		1.06 (.77, 1.46)	
Never married with children	2.08 (1.44, 2.98)	***	2.07 (1.44, 2.97)	***	2.10 (1.46, 3.02)	***	2.23 (1.61, 3.08)	***	2.23 (1.61, 3.07)	***	2.24 (1.62, 3.10)	***
Never married without children	1.51 (1.16, 1.96)	**	1.51 (1.16, 1.96)	**	1.51 (1.17, 1.97)	**	1.60 (1.21, 2.10)	***	1.60 (1.21, 2.10)	***	1.60 (1.22, 2.11)	***
Parental Edu (ref = Less than HS)												
High School or Equivalent	.94 (.66, 1.35)		.94 (.66, 1.35)		.95 (.66, 1.37)		.92 (.67, 1.26)		.92 (.67, 1.26)		.92 (.67, 1.26)	
Some College	.80 (.55, 1.17)		.80 (.55, 1.17)		.80 (.55, 1.17)		1.07 (.77, 1.48)		1.07 (.77, 1.48)		1.07 (.77, 1.49)	
4- year degree and more	.90 (.60, 1.35)		.90 (.60, 1.36)		.91 (.61, 1.37)		.86 (.59, 1.25)		.86 (.59, 1.25)		.86 (.59, 1.25)	
Full-time Employment	1.31 (.88, 1.93)		1.30 (.88, 1.91)		1.31 (.89, 1.94)		1.13 (.88, 1.46)		1.13 (.88, 1.46)		1.13 (.88, 1.45)	

Health Examination	.81 (.65, .99)	*	.81 (.66, 1.00)		.81 (.66, 1.00)		.70 (.53, .92)	**	.70 (.53, .92)	**	.69 (.53, .91)	**
Logged Childhood Household Income	1.23 (1.05, 1.45)	*	1.22 (1.04, 1.44)	*	1.22 (1.04, 1.44)	*	.93 (.80, 1.08)		.93 (..80, 1.1)		.93 (.80, 1.08)	
Adult Household Income	.92 (.88, .96)	***	.92 (.88, .96)	***	.92 (.88, .96)	***	.94 (.90, .98)	**	.94 (.90, .98)	**	.94 (.90, .98)	**
Education Status	.84 (.79, .89)	***	.84 (.79, .89)	***	.84 (.79, .89)	***	.82 (.77, .87)	***	.82 (.77, .87)	***	.82 (.77, .87)	***
Adolescent Cigarette Smoking	4.28 (3.4, 5.4)	***	4.18 (3.31, 5.29)	***	4.20 (3.32, 5.31)	***	5.22 (4.19, 6.50)	***	5.21 (4.17, 6.51)	***	5.22 (4.18, 6.53)	***
Social Support			.85 (.67, 1.08)		.81 (.62, 1.07)				.99 (.80, 1.24)		1.18 (.81, 1.72)	
ACE Score x Social Support					1.03 (.97, 1.09)						1.00 (.95, 1.07)	

Note:
†p<.10 *p<.05 **p<.01 ***p<.001

Table III.4: Logistic regression models for the relationship between ACE score, social support, and illicit drug use

	Men						Women					
	Model 1A		Model 1B		Model 1C		Model 2A		Model 2B		Model 2C	
	OR (95% CI)		OR (95% CI)		OR (95% CI)		OR (95% CI)		OR (95% CI)		OR (95% CI)	
ACE Score	1.17 (1.05, 1.29)	**	1.16 (1.03, 1.29)	**	1.19 (.86, 1.66)		1.12 (1.01, 1.24)	*	1.10 (.97, 1.23)	†	1.44 (.98, 2.13)	†
Race/Ethnicity (ref = White American)												
African American	.26 (.13, .53)	***	.26 (.13, .53)	***	.26 (.13, .54)	***	.30 (.14, .63)	***	.30 (.14, .62)	***	.30 (.14, .63)	***
Latinx	.91 (.53, 1.57)		.91 (.53, 1.57)		.92 (.53, 1.59)		.92 (.48, 1.78)		.93 (.48, 1.79)		.93 (.49, 1.79)	
Age	.95 (.86, 1.06)		.95 (.85, 1.06)		.95 (.85, 1.06)		.94 (.82, 1.07)		.93 (.82, 1.07)		.94 (.82, 1.07)	
Relationship and Parent Status (ref = Ever married with children)												
Ever married without children	.21 (.10, .45)	***	.21 (.10, .45)	***	.21 (.10, .45)	***	1.17 (.57, 2.39)		1.17 (.58, 2.40)		1.19 (.58, 2.42)	
Never married with children	1.40 (.79, 2.49)		1.39 (.78, 2.48)		1.38 (.77, 2.45)		2.72 (1.46, 5.07)	**	2.69 (1.45, 5.02)	**	2.76 (1.48, 5.12)	***
Never married without children	1.43 (.88, 2.33)		1.44 (.88, 2.33)		1.43 (.88, 2.32)		2.24 (1.21, 4.13)	**	2.23 (1.21, 4.13)	**	2.27 (1.23, 4.19)	**
Parent Edu (ref = Less than HS)												
High School or Equivalent	.86 (.48, 1.55)		.86 (.48, 1.55)		.87 (.49, 1.57)		1.18 (.59, 2.35)		1.20 (.60, 2.39)		1.22 (.61, 2.44)	
Some College	.85 (.46, 1.57)		.85 (.46, 1.57)		.86 (.47, 1.59)		1.76 (.90, 3.45)		1.78 (.91, 3.50)		1.81 (.92, 3.56)	
4- year degree and more	.89 (.45, 1.76)		.89 (.45, 1.76)		.90 (.45, 1.80)		1.32 (.60, 2.90)		1.34 (.61, 2.94)		1.34 (.61, 2.96)	
Full-time Employment	.54 (.31, .95)	*	.54 (.31, .94)	*	.55 (.31, .96)	*	1.15 (.70, 1.89)		1.17 (.71, 1.91)		1.14 (.70, 1.89)	

Health Examination	1.05 (.74, 1.49)		1.05 (.74, 1.50)		1.06 (.74, 1.50)		.62 (.39, 1.01)		.63 (.39, 1.01)		.62 (.38, .99)	*
Logged Childhood Household Income	1.11 (.82, 1.49)		1.11 (.82, 1.49)		1.10 (.82, 1.49)		1.11 (.82, 1.50)		1.11 (.82, 1.50)		1.12 (.83, 1.51)	
Adult Household Income	1.02 (.95, 1.09)		1.02 (.95, 1.09)		1.02 (.96, 1.09)		1.02 (.94, 1.11)		1.02 (.94, 1.11)		1.12 (.83, 1.51)	
Education Status	.87 (.78, .97)	*	.87 (.79, .97)	*	.87 (.79, .97)	*	.84 (.76, .94)	**	.85 (.76, .94)	**	.84 (.75, .94)	**
Adolescent Drug Use	2.17 (.95, 4.98)		2.11 (.92, 4.87)		2.20 (.97, 5.0)		2.78 (1.10, 6.93)	*	2.53 (1.04, 6.14)	*	2.36 (.94, 5.91)	
Social Support			.93 (.65, 1.34)		.95 (.90, 1.09)				.78 (.50, 1.19)		.97 (.56, 1.67)	
ACE Score x Social Support					.99 (.90, 1.09)						.92 (.81, 1.03	

Note:
†p<.10 *p<.05 **p<.01 ***p<.001

Full-time employment and education remained associated with lower odds of illicit drug use. The final model shows that ACE score loses significance after adjusting for the potential moderating effect of social support. African American men and those who had married without children remained associated with lower odds of illicit drug use than their White American and married with children counterparts. Full-time employment and education were still associated with lower odds of illicit drug use. Social support was not associated with illicit drug use and was not a moderator in the relationship between ACE score and illicit drug use for men.

ACE score was associated with higher odds of illicit drug use for women in Model 1A, but becomes only marginally associated with increased odds of drug use in Model 2B. African American women reported lower odds of illicit drug use than their White American women counterparts, and education was associated with decreased risk of illicit drug use ($p<.01$). Women who had never married (with or without children) had higher odds of illicit drug than their married with children counterparts. Adolescent illicit drug use was associated with increased odds of illicit drug use in young adulthood ($p<.05$). Model 2C demonstrates that ACE score remains marginally associated with higher odds of illicit drug use after adjusting for the interaction between social support and ACE score ($p<.10$). Those who had never married with or without children still had increased risk of illicit drug those than those who had married and had children. Having a physical health examination becomes associated with lower odds of illicit drug use ($p<.05$). Adolescent illicit drug use was no longer associated with later illicit drug use. Social support was not associated with illicit drug use and had no moderating effect between ACE score and later drug use. Overall, social support does not moderate any of the relationships between cumulative early life adversity and any of the substance misuse behaviors.

Table III.5: Logistic regression models for the relationships between domains of adversities, social support, and heavy alcohol use

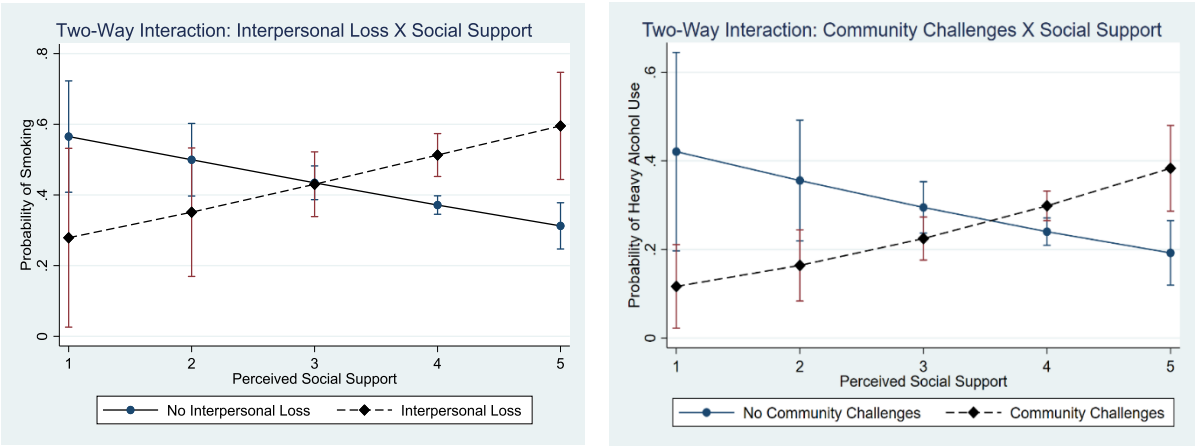
	Men			Women		
	Model 1A	Model 1B	Model 1C	Model 2A	Model 2B	Model 2C
	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)
Interpersonal Loss	1.14 (.82, 1.58)	1.14 (.81, 1.57)	1.92 (.19, 18.75)	.92 (.66, 1.28)	.92 (.66, 1.28)	3.70 (.51, 26.65)
ACE Score	1.01 (.92, 1.10)	1.02 (.93, 1.12)	1.02 (.93, 1.12)	1.11 (1.01, 1.23) *	1.11 (1.01, 1.22) *	1.11 (1.01, 1.22) *
Social Support		1.14 (.88, .148)	1.18 (.88, 1.57)		.98 (.76, 1.28)	1.08 (.79, 1.47)
Interpersonal Loss x Social Support			.87 (.47, 1.60)			.68 (.40, 1.16)
Household Challenges	.84 (.62, 1.12)	.83 (.61, 1.11)	.88 (.12, 6.30)	1.13 (.83, 1.59)	1.13 (.83, 1.53)	1.07 (.15, 7.43)
ACE Score	1.04 (.96, 1.16)	1.05 (.61, 1.11)	1.07 (.97, 1.18)	1.08 (.97, 1.19)	1.08 (.97, 1.19)	1.08 (.97, 1.19)
Social Support		1.15 (.89, 1.50)	1.16 (.85, 1.58)		.98 (.75, 1.28)	.97 (.69, 1.37)
HH Challenges x Social Support			.99 (.59, 1.68)			1.01 (.61, 1.69)
Abuse	.75 (.58, .98) *	.76 (.59, .99) *	1.17 (.18, 7.71)	.76 (.57, 1.02) †	.76 (.56, 1.02) †	.66 (.09, 4.80)
ACE Score	1.08 (.99, 1.19)	1.07 (.99, 1.20)	1.07 (.98, 1.17)	1.14 (1.05, 1.29) **	1.14 (1.05, 1.29) **	1.14 (1.05, 1.29) **
Social Support		1.12 (.86, 1.45)	1.18 (.82, 1.69)		.95 (.73, 1.24)	.93 (.61, 1.42)
Abuse x Social Support			.90 (.55, 1.48)			1.04 (.62, 1.74)
Community challenges	1.18 (.92, 1.50)	1.16 (.91, 1.48)	.08 (.01, .51) **	1.10 (.84, 1.40)	1.10 (.84, 1.41)	3.60 (.55, 23.60)
ACE Score	1.00 (.91, 1.09)	1.01 (.92, 1.48)	1.01 (.92, 1.1)	1.09 (.99, 1.19) †	1.08 (.99, 1.19) †	1.09 (.99, 1.19) †
Social Support		1.13 (.87, 1.47)	.74 (.51, 1.08)		.97 (.74, 1.26)	1.13 (.80, 1.58)

Community challenges x Social Support			2.07 (1.26, 3.41)	**				.73 (.44, 1.19)	
Physical Neglect	.95 (.74, 1.22)	.95 (.74, 1.22)	7.11 (1.09, 46.46)	*	.93 (.70, 1.24)		.93 (.70, 1.24)	.07 (.01, .52)	**
ACE Score	1.02 (.95, 1.11)	1.03 (.95, 1.12)	1.03 (.95, 1.12)		1.10 (1.01, 1.20)	*	1.10 (1.01, 1.20) *	1.10 (1.01, 1.20)	*
Social Support		1.15 (.88, 1.49)	1.41 (1.01, 1.95)	*			.98 (.75, 1.28)	.80 (.58, 1.09)	
Physical Neglect x Social Support			.58 (35, .96)	*				2.00 (1.18, 3.38)	**

ORs adjusted for race/ethnicity, age, relationship and parent status, parental education, full time employment status, health examination, childhood household income, education status, and adolescent heavy alcohol use

Note:
†p<.10 *p<.05 **p<.01 ***p<.001

A) B)



C) D)

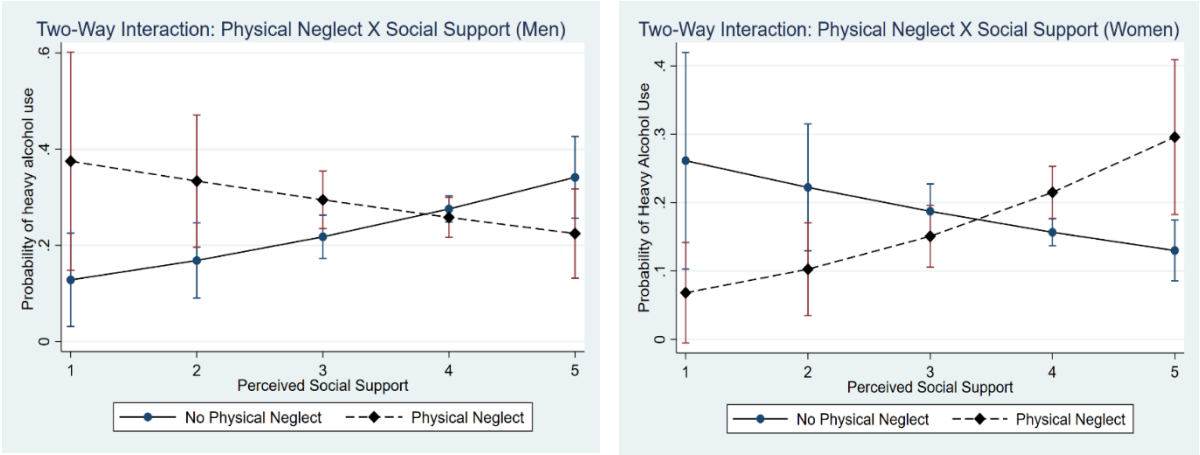


Figure III.2: Moderating effect of perceived social support on the relationship between domains of early life adversity and young adult substance misuse

A) Social support moderates the relationship between interpersonal loss and smoking in men.
B) Social support moderates the relationship between community challenges and heavy alcohol use in men.
C) Social support moderates the relationship between physical neglect and heavy alcohol use in men.
D) Social support moderates the relationship between physical neglect and heavy alcohol use in women.

Relationship between domains of early life adversities, social support, and substance misuse

Table III.5 displays results of the logistic regression model for the relationships between domains of early life adversities and heavy alcohol use.

For men, interpersonal loss and household challenges were not associated with heavy alcohol use. Community challenges were not associated with heavy alcohol use in models 1A and 1B. However, the community challenges domain becomes associated with lower odds of heavy alcohol use once accounting for the moderating effect of social support (OR=.08, 95% CI = .01, .51). Social support moderates the relationship between community challenges and heavy alcohol use (OR= 2.07, 95% CI = 1.26, 3.41). As illustrated in Figure III.2B, men exposed to community challenges have higher probability of heavy alcohol use as their perceived social support increases. The relationship was in the opposite direction for men without exposure to community challenges such that those without community challenges had lower probability of smoking as their perceived social support increases. Abuse was associated with lower odds of heavy alcohol use until adjusting for the potential moderating effect of social support. ACE score was not associated with heavy alcohol use and social support was not a moderator between abuse and heavy alcohol use. Physical neglect was not associated with heavy alcohol use in Models 1A and 1B but becomes associated with higher odds of heavy alcohol use in Model 1C (OR= 7.11, 95% CI = 1.09, 46.46). Social support was associated with higher odds of heavy alcohol use in Model 1C and moderates the relationship between neglect and alcohol use (OR= .58, 95% CI = .35, .96). As shown in Figure 3.2C, social support moderates the relationship so men who were exposed to early life neglect had lower probability of heavy alcohol use as perceived social support increased.

For women, interpersonal loss was not associated with heavy alcohol use. ACE score was associated with increased risk of heavy alcohol use after adjusting for the interaction between interpersonal loss and social support (OR=1.11, 95% CI = 1.01, 1.22). Household challenges and community challenges were not associated with heavy alcohol use. In the community challenges model, ACE score was marginally associated with higher odds of heavy alcohol use ($p < .10$). Abuse was marginally associated with lower odds of heavy alcohol use until adjusting for the potential moderating effect of social support. ACE score was associated with higher odds of heavy alcohol use after accounting for the covariates and social support (OR=1.16, 95% CI = 1.05, 1.29). Physical neglect was not associated with heavy alcohol use in Models 2A and 2B, but ACE score was associated with increased odds of heavy alcohol use in both models ($p < .05$). Model 2C shows that physical neglect becomes associated with lower odds of heavy alcohol use (OR= .07, 95% CI = .01, .52) and ACE score continues to be associated with higher odds of alcohol use. As illustrated in Figure 3.2D, social support moderates the relationship between neglect and alcohol use such that women who were exposed to physical neglect had higher probabilities of heavy alcohol use as their perceived social support increased. For women who had not experienced neglect, the probability of heavy alcohol use decreased as perceived social support increased.

Table III.6 shows the logistic regression models predicting the impact of domains of early life adversities and cigarette smoking. For men, interpersonal loss was not associated with cigarette smoking until adjusting for the moderating effect of social support. In Model 1C, interpersonal loss is associated with lower odds of cigarette smoking (OR=.09, 95% CI = .01, .85). Social support is associated with lower odds of cigarette smoking and moderates the relationship between interpersonal loss and smoking (OR=2.0, 95% CI = 1.10, 3.62).

Table III.6: Logistic regression models for the relationships between domains of adversities, social support, and cigarette smoking

	Men			Women		
	Model 1A	Model 1B	Model 1C	Model 2A	Model 2B	Model 2C
	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)
Interpersonal Loss	1.20 (.88, 1.62)	1.21 (.89, 1.64)	.09 (.01, .85) *	.92 (.69, 1.22)	.92 (.69, 1.22)	2.08 (.34, 12.32)
ACE Score	1.04 (.95, 1.13)	1.02 (.94, 1.11)	1.02 (.94, 1.11)	1.13 (1.07, 1.25) ***	1.13 (1.06, 1.25) ***	1.13 (1.06, 1.25) ***
Social Support		.84 (.66, 1.07)	.72 (.55, .95) *		1.00 (.80, 1.24)	1.04 (.81, 1.33)
Interpersonal Loss x Social Support			2.0 (1.10, 3.62) *			.81 (.50, 1.33)
Household Challenges	.95 (.73, 1.25)	.96 (.73, 1.26)	.17 (.03, 1.07) †	1.11 (.87, 1.42)	1.11 (.87, 1.42)	.77 (.15, 3.84)
ACE Score	1.07 (.97, 1.17)	1.05 (.96, 1.15)	1.06 (.97, 1.15)	1.12 (1.03, 1.22) **	1.12 (1.03, 1.42) **	1.12 (1.03, 1.22) **
Social Support		.85 (.67, 1.08)	.72 (.54, .96) *		.99 (.80, 1.24)	.95 (.72, 1.26)
Household Challenges x Social Support			1.58 (.97, 2.56) †			1.11 (.72, 1.70)
Abuse	1.05 (.82, 1.35)	1.03 (.81, 1.33)	.63 (.11, 3.73)	1.05 (.82, 1.34)	1.05 (.82, 1.34)	5.26 (1.04, 28.92) †
ACE Score	1.05 (.96, 1.15)	1.04 (.95, 1.14)	1.04 (.95, 1.14)	1.13 (1.04, 1.24) **	1.13 (1.04, 1.24) **	1.13 (1.03, 1.23) **
Social Support		.85 (.67, 1.09)	.80 (.56, 1.13)		1.00 (.80, 1.25)	1.31 (.93, 1.85)
Abuse x Social Support			1.14 (.71, 1.82)			.64 (.42, .99) †
Community challenges	.92 (.73, 1.16)	.94 (.75, 1.18)	.22 (.04, 1.28) †	1.00 (.81, 1.24)	1.00 (.81, 1.24)	1.52 (.31, 7.34)
ACE Score	1.07 (.73, 1.16) †	1.06 (.97, 1.15)	1.06 (.97, 1.15)	1.14 (1.06, 1.24) ***	1.14 (1.06, 1.24) ***	1.14 (1.06, 1.24) ***
Social Support		.86 (.67, 1.09)	.69 (.48, .99) †		.99 (.80, 1.24)	1.04 (.80, 1.4)

Community challenges x Social Support				1.47 (.92, 2.34)						.89 (.59, 1.36)		
Physical Neglect	1.01 (.79, 1.29)		1.01 (.78, 1.29)		1.01 (.17, 6.16)		.92 (.71, 1.17)		.92 (.71, 1.17)		.71 (.13, 3.93)	
ACE Score	1.06 (.98, 1.14)		1.05 (.97, 1.13)		1.05 (.97, 1.13)		1.14 (.106, 1.23)	***	1.14 (1.06, 1.23)	***	1.14 (1.06, 1.23)	***
Social Support			.86 (.68, 1.10)		.86 (.64, 1.16)				1.00 (.80, 1.24)		.98 (.76, 1.26)	
Physical Neglect x Social Support					1.00 (.62, 1.62)						1.07 (.68, 1.70)	

ORs adjusted for race/ethnicity, age, relationship and parent status, parental education, full time employment status, health examination, childhood household income, education status, and adolescent smoking

†p<.10 *p<.05 **p<.01 ***p<.001

Table III.7: Logistic regression models for the relationships between domains of adversities, social support, and illicit drug use

	Men						Women					
	Model 1A		Model 1B		Model 1C		Model 2A		Model 2B		Model 2C	
	OR (95% CI)		OR (95% CI)		OR (95% CI)		OR (95% CI)		OR (95% CI)		OR (95% CI)	
Interpersonal Loss	1.54 (.93, 2.55)	†	1.55 (.94, 2.57)	†	.30 (.02, 6.3)		1.08 (.63, 1.83)		1.10 (.65, 1.87)		3.07 (.14, 69.44)	
ACE Score	1.11 (.99, 1.25)	†	1.10 (.98, 1.24)		1.10 (.98, 1.24)		1.10 (.96, 1.25)	†	1.08 (.94, 1.24)		1.08 (.94, 1.23)	
Social Support			.90 (.63, 1.30)		.78 (.51, 1.17)				.77 (.51, 1.19)		.83 (.49, 1.40)	
Interpersonal Loss x Social Support					1.55 (.70, 3.46)						.75 (.32, 1.79)	
Household Challenges	.92 (.59, 1.46)		.93 (.59, 1.46)		.52 (.04, 7.6)		.81 (.45, 1.45)		.81 (.46, 1.45)		1.60 (.08, 36.68)	
ACE Score	1.18 (1.06, 1.32)	**	1.18 (1.05, 1.32)	**	1.18 (1.05, 1.32)	**	1.15 (1.01, 1.34)	*	1.14 (.97, 1.33)	†	1.13 (.97, 1.32)	†
Social Support			.91 (.63, 1.30)		.85 (.53, 1.35)				.78 (.51, 1.19)		.84 (.46, 1.53)	

Household Challenges x Social Support					1.20 (.58, 2.47)							.82 (.35, 1.92)	
Abuse	.87 (.57, 1.33)		.86 (.59, 1.32)		.21 (.01, 3.08)		2.33 (1.36, 4.00)	**	2.28 (1.43, 4.18)	***	22.20 (.50, 978.60)		
ACE Score	1.20 (1.06, 1.35)	**	1.19 (1.05, 1.32)	**	1.20 (1.06, 1.34)	**	.93 (.79, 1.10)		.93 (.79, 1.10)		.93 (.78, 1.10)		
Social Support			.90 (.63, 1.29)		.73 (.42, 1.27)				.86 (.56, 1.32)		1.35 (.57, 3.22)		
Abuse x Social Support					1.49 (.73, 3.06)						.56 (.21, 1.51)		
Community challenges	.98 (.64, 1.49)		.98 (.65, 1.50)		.16 (.01, 2.52)		.46 (.28, 74)	***	.47 (.29, 76)	**	1.54 (.07, 33.14)		
ACE Score	1.17 (1.04, 1.32)	**	1.16 (1.01, 1.32)	*	1.16 (1.01, 1.33)	*	1.22 (1.07, 1.39)	**	1.21 (1.06, 1.38)	**	1.20 (1.05, 1.38)	**	
Social Support			.91 (.63, 1.30)		.68 (.39, 1.19)				.86 (.55, 1.35)		.97 (.53, 1.77)		
Community challenges x Social Support					1.62 (.78, 3.35)						.72 (.31, 1.69)		
Physical Neglect	1.18 (.79, 1.74)		1.18 (.79, 1.75)		.100 (.01, 1.55)		1.31 (.82, 2.12)		1.31 (.81, 2.11)		1.51 (.05, 45.8)		
ACE Score	1.14 (1.03, 1.27)	*	1.14 (1.02, 1.27)	*	1.14 (1.02, 1.28)	*	1.06 (.93, 1.20)		1.05 (.93, 1.19)		1.05 (.93, 1.19)		
Social Support			.93 (.65, 1.34)		.71 (.46, 1.08)				.89 (.56, 1.42)		.91 (.52, 1.57)		
Physical Neglect x Social Support					1.95 (.94, 4.04)						.96 (.38, 2.45)		

ORs adjusted for race/ethnicity, age, relationship and parent status, parental education, full time employment status, health examination, childhood household income, education status, and adolescent illicit drug use

Note:
†p<.10 *p<.05 **p<.01 ***p<.001

As shown in Figure III.2A, men who experienced interpersonal loss had higher probabilities of cigarette smoking as perceived levels of social support increased. For those who had not experienced interpersonal loss early in life, the probability of smoking decreased as perceived social support increased. Household challenges were not associated with cigarette smoking but were marginally associated with lower odds of smoking after adjusting for the potential moderator in Model 1C ($p<.10$). Social support was associated with lower odds of cigarette smoking and was a moderator for the relationship at the 10% significance level. Abuse was not associated with cigarette smoking in men. Community challenges followed a similar pattern as household challenges and was not associated with cigarette smoking in Models 1A and 1B. In Model 1C, the community challenges domain was marginally associated with lower odds of smoking ($p<.10$). Social support was marginally associated with decreased risk of smoking (OR=.69, 95% CI = .48, .99), but was not a moderator in the relationship between community challenges and smoking. Physical neglect was not associated with cigarette smoking.

For women, interpersonal loss was not associated with cigarette smoking, but ACE score was associated with increased odds of smoking in all three models ($p<.001$). A similar pattern emerged with household challenges and community challenges. Neither household nor community challenges were associated with smoking while ACE score was associated with higher odds of smoking across the models ($p<05$ and $p<.001$, respectively). Social support was not associated with smoking in either the household or community challenges models. Abuse was not associated with smoking until adjusting for the moderating effect of social support. In Model 2C, abuse was marginally associated with higher odds of smoking (OR= 5.26, 95% CI = 1.04, 28.92). ACE score was also associated with increased risk of smoking ($p<.001$). Social support marginally moderates the relationship between abuse and cigarette smoking ($p< .10$).

Women who had been abused had lower probability of smoking as perceived social support increases. Those who had not been abused had increased probability of smoking as perceived social support increased. Physical neglect was not associated with cigarette smoking, but ACE score was associated with higher odds of smoking in all three models. Social support was not associated with smoking.

Table III.7 presents the results of logistic regression models for the relationship between domains of early life adversities and illicit drug use.

For men, interpersonal loss was marginally associated with illicit drug use but loss significance after adjusting for the potential moderating effect of social support. None of the other domains of ACEs were associated with illicit drug use. ACE score was associated with increased risk of illicit drug use in each of the domains of adversity models except for interpersonal loss.

For women, interpersonal loss, physical neglect, and household challenges were not associated with illicit drug use. Abuse was associated with higher odds of illicit drug use in models 2A and 2B ($p<.001$), but loss significance in Model 2C. The community challenges domain was associated with lower odds of illicit drug use until adjusting for the potential moderating effect of social support, and ACE score was associated with increased odds of drug use in the community challenges models ($p<.01$). Social support was not associated with illicit drug use in any of the domain models.

Robustness Checks and Sensitivity Analyses

Age-Stratified Analysis

The risk of substance misuse may vary by an individual's age or period in the life course. Adolescents and emerging adults may engage in more substance misuse during social activities

with peers as it is considered normative behavior during this period of the life course (Needham, 2007; Umberson & Montez, 2010). Since the sample in this study has a relatively wide age range that spanned 24 to 34 years old, it is possible that younger respondents may be at higher risk for substance misuse. Older respondents may have more responsibilities and societal, professional, interpersonal expectations that place them at lower risk of substance misuse (Merline, O'Malley, Schulenberg, Bachman, & Johnston,2004). In analyses not shown, I conducted robustness checks to determine if the relationship between early life adversity, social support, and the risk of substance misuse differed by the age of the respondents.

I ran age-stratified models of younger respondents (ages 24-28) and older respondents (29-34) and found that the relationships between ACEs and substance misuse varied by age group. For the women in the 29-34 age group, ACE score was associated with higher odds of alcohol use while there was no relationship between ACE score and alcohol use for women in the younger age group. The results for the relationship between ACE score and smoking were similar to the main analyses for women in both age groups, although women in the older group had higher odds of smoking than those in the main analyses. Similarly, the results for ACE score and illicit drug use were comparable to the main analyses findings for women in both age groups.

For men, the results for ACE score and heavy alcohol use were similar to the main analyses for both age groups. For younger men, ACE score was associated with higher odds of smoking until accounting for social support while it was not associated with smoking in the older men. Younger men had similar results for the relationship between ACE score and illicit drug use as the main analyses, but for those 29-34 years old, ACE score was not associated with illicit drug use.

The relationships between domains of adversities, substance use, and social support differed by age group. For men in the 29-34 age group, community challenges were associated with lower odds of alcohol use, but social support only marginally moderated the relationship. Physical neglect was not associated with heavy alcohol use or illicit drug use, and interpersonal loss was not associated with smoking. For men in younger age group, community challenges were associated with lower odds of heavy alcohol use and social support moderated the relationship so that those who experienced community challenges had higher probability of alcohol use as perceived social support increased. Interpersonal loss was also associated with lower odds of smoking and social support moderated the relationship, in which that young men who experienced interpersonal loss had higher odds of smoking as perceived social support increased. Physical neglect was associated with lower odds of illicit drug use and social support moderated the relationship, and men who were neglected in early life had higher probability of illicit drug use as their perceived social support increased.

For younger women ages 24-28, abused was associated with much higher odds of smoking but not associated with smoking for women in the older age group. Social support also moderated the relationship such that younger women who were abused had lower probability of smoking as perceived social support increased. Younger women who were not abused had increased probability of smoking as their social support increased. The results for the relationships between physical neglect and all forms of substance misuse were similar to the main analyses for women in both age groups.

Economic hardship as an early life adversity

There is debate about what constitutes an early life adversity, and economic hardship has been considered an ACE in some studies but excluded in others. Economic hardship may be

considered an ACE because poverty can threaten an individual's development into a healthy adult by disrupting family and influencing the types of social and familial stressors that youth encounter (Braveman & Barclay, 2009; Kalmakis & Chandler, 2014). In the current study, I controlled for parental education status and adolescent household income which provides an indicator of economic position. Since I controlled parental socioeconomic position, I did not include economic hardship as an individual early life adversity or predictor. In analyses not shown, I added economic hardship into the cumulative early life adversity measure and as a domain of adversity. Economic hardship was measured by a parent being unable to meet their bills and expenses each month and receipt of some form of public assistance (Byrne et al., 2014; Neppl, Senia, & Donnellan, 2016). When incorporating economic hardship, I found the ACE score remained unassociated with heavy alcohol use and smoking in men. ACE score was associated with higher odds of illicit drug use until the final model in men, which differed from the main analyses. ACE score was associated with higher odds of smoking until the final model and marginally associated with higher odds of heavy alcohol use for women. ACE score was not associated with illicit drug use in women.

When considering economic hardship as a domain of adversity, it was not associated with illicit drug use in men or women. Economic hardship was not associated with heavy alcohol use in men. However, it was associated with lower odds of heavy alcohol use in women until the final model. Economic hardship was associated with lower odds of smoking and social support moderated the relationship for both men and women such that the probability of smoking increases as social support increases for those who experience it.

DISCUSSION

This study explored whether social support moderates the relationship between early life adversity and young adult substance misuse, and several key findings emerged from the analyses. First, I found that cumulative early life adversity is associated with higher odds of some types of substance misuse. Women who were exposed to more ACEs reported higher odds of the three types of substance misuse: heavy alcohol use, smoking, and illicit drug use while exposure to more ACEs was only associated with higher odds of illicit drug use for men. These findings suggest that exposure to multiple early life adversities is associated with increased odds of substance misuse in young adulthood, and that illicit drug use is a significant risk for both men and women. This is consistent with prior research that young adults who experience multiple or a high cumulative number of ACEs are more likely to engage in substance abuse or misuse and tend to have a greater number substance abuse or misuse problems than their young adult counterparts who have no ACE exposure (Brown & Shillington, 2017; Felitti et al., 1998; Monnat & Chandler, 2015; Shin et al., 2018). It is possible that young adults with multiple or high ACE exposure engage in illicit drug use as a coping strategy to manage negative affect and feelings associated with early life trauma and adversity.

The relationship between cumulative early life adversity and heavy alcohol use and smoking in women was an unexpected finding. Prior studies have found that young adult men who experienced ACEs are more likely to report alcohol abuse or misuse while other studies found no gender differences in excessive alcohol use (Crouch, Radcliff, Strompolis, & Wilson, A., 2018; Fang, Chuang, & Lee, 2016; Lee & Chen, 2017; Loudermilk, Loudermilk, Obenauer, & Quinn, 2018). Although alcohol use disorders and binge drinking are more common in men than women, gender differences in the prevalence of alcohol misuse disorders have narrowed

among younger age cohorts (Crouch et al., 2018). Similarly, while historically men have smoked more than women, the rates of smoking and risk of dying from smoking-related causes more than tripled in the past five decades for women and is now equal to that of men (McHugh et al., 2018). A potential explanation for the high rates of smoking for women with ACEs is that they may be at higher risk for the "matrix of disadvantage" or stress proliferation. This may cause them to encounter more current stressors, stressful life events, or psychological distress that stem from early life adversity; in fact, childhood adversity has been shown to impact women more than men in negative coping with stressors in adulthood (Crouch et al., 2018). Nicotine especially has been shown to be effective in regulating mood among individuals exposed to ACEs and may be craved during times of chronic distress (Remigio-Baker, Hayes, & Reyes-Salvail, 2017). The negative coping strategies may be especially true for women ages 29-34 with ACE exposure who reported higher odds of heavy alcohol use and smoking, while younger women with ACEs showed no association between ACEs and heavy alcohol use. Women moving from young adulthood into adulthood may feel they have more stressors as they gain and balance more responsibilities and expectations than younger women. Alcohol and smoking may be coping strategies for both feelings associated with early life adversity and those associated with adulthood stressors in women.

A second key finding is that social support did not moderate any of the relationships between cumulative early life adversity and substance use. This finding is relatively consistent with existing literature that demonstrate mixed findings about the moderating role of social support between early life adversity and subsequent substance use (Sperry & Widom, 2013). Some studies have found that more protective adult relationships among youth who experienced early adversity had no significant effect on reducing substance use in late adolescence, while

another study found that the presence of trusted adults available in adolescence can mitigate smoking behaviors in young adults who experiences early life adversity (Bellis et al., 2017; Brown & Shillington, 2017). These studies suggest that the mere presence of adult relationships or social support may not enough to moderate the relationship between early life adversity and substance use, but the quality and stability of the relationships may be the most important factor in reducing substance use (Brown & Shillington, 2017). In the current study, perceived social support was measured at one point in time, so these social relationships may have been unstable or short-term, which may explain social support did not moderate the relationship between ACE score and substance use. Another potential explanation is that the quality of the relationships were not strong enough to mitigate the effects of ACE score on substance use because the youth may not have had the opportunity to develop constructive coping strategies to respond to early-life stress from those in their social networks (Brown & Shillington, 2017). A further complication is that adolescent social support may hold less importance in young adult decisions and behaviors as they move into their own identities and independence (Arnett, 2000). One study found that the prevalence rates of substance use tend to increase through time and that the effect of social support, especially family support, on substance use reduced with age during the transition to adulthood (Nguyen, 2012). Since perceived adolescent social support does not buffer the impact of high cumulative early life adversity on substance misuse in young adulthood, it is important to examine other potential buffers in the relationship.

Third, these analyses found that domains of early life adversities are uniquely associated with some types of substance misuse even when cumulative adversity was not. While cumulative early life adversity was not associated with heavy alcohol use or smoking in men, physical neglect was associated with higher odds of heavy alcohol use. ACE score was associated with

higher odds of illicit drug use for men, but only interpersonal loss domain was marginally associated with higher odds of drug use. For women, ACE score was associated with higher odds of engaging in all three substances but only abuse was associated with higher odds of smoking and illicit drug use. These findings that there are differential relationships between types of adversities and ACE score and substance misuse is consistent with prior studies (Campbell et al., 2016). The results that abuse, physical neglect, and interpersonal loss is associated with higher odds of illicit drug use and heavy alcohol use is also consistent with prior research (Brown & Shillington, 2017; Remigio-Baker et al., 2017; Schilling et al., 2007; White & Widom, 2008; Wolitzky-Taylor et al., 2017).

Fourth, the relationship between early life adversity, social support, and substance misuse varies by the domain of adversity. I posited that higher levels of perceived social support would be associated with lower odds of substance misuse among young adults exposed to domains of adversities, but the analyses only partially supported this hypothesis. While social support did not moderate any of the relationships between ACE score and substance misuse, it did moderate the relationships between interpersonal loss and smoking, and community challenges and heavy alcohol use in men. Social support also moderated the relationship between physical neglect and heavy alcohol use in women. For men who experienced interpersonal loss or community challenges, the probability of smoking or heavy alcohol use increased as their perceived social support increased. Similarly, for women who experienced early life physical neglect, the probability of heavy alcohol use increased as perceived social support increased. In fact, after accounting for the moderating effect of social support, physical neglect in women and community challenges and interpersonal loss in men were associated with lower odds of heavy alcohol use and smoking.

These findings were unexpected and do not support the buffering hypothesis; it is difficult to know where these results fit with prior research because there is limited literature that examines domains of adversities, social support, and substance misuse. It is feasible that the probability of smoking and heavy alcohol use increases for those who experienced early life adversity as perceived social support increases because substance misuse may be a sign of social integration in young adulthood. Drinking and sometimes heavy or binge drinking are normative social activities during young adulthood and likely to occur in social settings, so young adults who have healthy and robust social lives likely have higher perceived social support and may be more likely to engage in heavy social drinking (Needham, 2007; Umberson & Montez, 2010). Studies have shown that having more close friends increases the risk of unhealthy behaviors and that receiving more peer support is associated with higher levels of alcohol drinking after experiencing a negative life event (Nguyen, 2012). It may be that social norms around heavy drinking and using alcohol to feel better after negative events can lead to heavy alcohol use for young adults who experience adverse events in early life and have more social support (Nguyen, 2012; Umberson & Montez, 2010).

Studies have also found that women are more likely to drink heavily to cope with negative affect such as depression and anxiety so they may utilize heavy drinking as a coping strategy regardless of levels of social support (Goldstein, Feltt, & Wekerle, 2010). For individuals who experienced community challenges and felt unsafe or victimized by peers early in life, they may have difficulty socially integrating as young adults (Siegel, La Greca, & Harrison, 2009). This can cause them to engage in fewer social activities including those that include heavy or social drinking, which can lead to lower rates of heavy alcohol use. As for the increased probability of smoking as social support increases for women, peer pressure may lead

to early smoking initiation especially after experiencing a negative event, and this can lead to the continuation of smoking into young adulthood. It may be especially difficult to quit smoking because of the highly addictive qualities of nicotine and tobacco, leading to a higher likelihood of smoking for those with early life adversity and more social support (Bellis et al., 2017).

It is also possible that neglected youth may be more vulnerable to substance misuse because of a lack of sufficient parental supervision and engaging in heavy drinking at early ages can lead to continued heavy drinking in young adulthood (Kobulsky, Yoon, Bright, Lee, & Nam, 2018; Widom, Czaja, & Dutton, 2008). Physical neglect or interpersonal loss may be particularly harmful because individuals may view family or adults as sources of adversity making support from parents or adults less effective (Pan, Zaff & Donlan, 2017; Pinto et al., 2017). There may be a lack of trust between youth who experience certain early life adversities and parents or other adults as interpersonal trauma can raise assumptions of threat and insecurity and impact how individuals perceive and receive social support (Pinto et al., 2017). They may not trust adults or peers based on their past experiences or feel comfortable discussing their feelings associated with past adversities, which may unintentionally limit how much social relationships and support can help them process their experiences or learn positive coping strategies to help them adapt to the stress experienced in early life or young adulthood (Bellis et al., 2017). When these children and adolescents transition into late adolescence and young adulthood, they may rely more on peers for support than trusted adults which can lead to higher engagement in substance use because of peer pressure or the lack of opportunity to learn constructive coping strategies to manage stress from more experienced adults.

Fifth, some domains of early life adversity were associated with lower odds of substance misuse. The community challenges domain was associated with lower odds of illicit drug use in

women, which is inconsistent with prior existing literature. Research has found that young adults exposed to community challenges especially peer victimization are at higher risk for substance use including illicit drug use (Brendgen, 2018; Wolke, Copeland, Angold, & Costello, 2013). I also found that abuse was associated with lower odds of heavy alcohol use in men which is relatively consistent with prior literature as multiple studies have found evidence of an association between abuse and alcohol misuse in women, but few studies have reported a similar relationship for men (White & Widom, 2008). Some studies have suggested that the impact of childhood physical and sexual abuse on heavy alcohol use may not be as strong during young adulthood especially in men (Fang & McNeil, 2017). It is likely that men utilized coping strategies other than heavy drinking to handle the feelings or stress associated with past adversity; men who were abused may have turned to illicit drug use more since abuse was associated with much higher odds of drug use in the current study.

Alternatively, another set of studies have found that positive coping strategies are negatively associated with psychological distress and PTSD symptoms while social support had no association (Pinto et al., 2017). These studies suggested that individuals who cannot rely on others for support are forced to turn within themselves to cope with trauma and adversity in early life, which can lead to the development of constructive and positive coping strategies (Pinto et al., 2017). It is possible that this these findings may extend to substance misuse in that those who early life adversity and cannot rely on others for support are sometimes able to develop positive coping strategies on their own without peer influence, and these coping strategies may prevent them from turning to illicit drug use or heavy alcohol use.

Sixth, social support was found to buffer the effect of early life adversity and substance misuse for some domains of adversity. For men who were physically neglected in early life, they

had lower probability of heavy alcohol use as their perceived social support increased. Similarly, women in the 24-28 age group who were abused in early life had lower likelihood of smoking as perceptions of social support increased. For those men and younger women who were not exposed to physical neglect or abuse, the probability of heavy alcohol use or smoking increased as social support increased. These findings support the buffering hypothesis in that social support mitigated the risk of substance use for men who experienced neglect and younger women who experienced abuse. Studies have found that men who were maltreated in childhood are more likely use heavy drinking to enhance positive feelings and to feel good (Goldstein et al., 2010). It is possible that young adult men who have been neglected and have a high level of social support do not feel the need to heavily drink to enhance positive feelings because of a strong social support network that already creates positive feelings. Women who were abused but have strong support systems may experience less negative affect or distress from the past abuse, and therefore, may not need to smoke as a coping strategy. It is also important to note the young adults who experienced domains of adversities had higher levels of substance misuse except at the highest levels of perceived social support than young adults who had not experienced those adversities which suggests early life adversity is still a strong predictor for substance misuse.

Finally, cumulative early life adversity is a strong predictor of substance misuse even when considering a specific domain of adversity. The analyses showed that while some domains of adversities are not associated with substance misuse, the cumulative adversity measure still predicted increased risk of substance misuse. Interpersonal loss, household challenges, and community challenges had no association with heavy alcohol use or smoking, but the ACE score in the models was associated with higher odds of these substance misuse behaviors. Similarly, for men, household challenges and abuse were not associated with illicit drug use but the ACE

score in the model was associated with higher odds of drug abuse. Even while community challenges were associated with lower odds of illicit drug use in men, the ACE score was associated with higher odds of drug use. These findings support prior findings that young adults who experience high or multiple ACEs are at higher risk for substance use problems than those who experience a single type of ACE (Shin et al., 2018). Exposure to multiple early life adversities may be more detrimental on substance misuse than the independent influence of exposure to particular domains of adversities.

The findings about early life adversity, social support, and substance misuse suggests that the mechanisms underlying the relationships vary by cumulative adversity and domains of adversities. If we relied solely on the ACE score, we would have missed the relationships between early life adversity and heavy alcohol use and smoking in men. This may have caused some interventions and practitioners to miss the risk of heavy alcohol use and smoking in men and focus on other health-risk behaviors. We also learned that social support is not the universal buffer against early life stress and subsequent outcomes that some studies have assumed, but the relationship differs based on the adversity experienced. Overall, these findings show that domains of adversities are important measures that should be examined in conjunction with the traditional cumulative adversity measure for informative and tailored interventions.

LIMITATIONS

While this study has multiple strengths, it is important to acknowledge several limitations. Some of the early life adversity indicators such as those in the abuse and physical neglect domains were asked retrospectively, which placed those measures at risk for recall bias. There is risk that a respondent's current mood and circumstances can bias the recall of childhood events, or that respondents may have difficulty recalling or reporting childhood events, leading

to the potential of over- and under-reporting (Poole et al., 2017). However, self-reports are the most common way to document a history of early abuse and memories of specific childhood experiences such as abuse and neglect have been found to be highly stable over time (Lee, Coe, & Ryff, 2017). Previous research has also reported good test-reliability in the reporting of individual adversities and the cumulative adversity scores, which suggests consistency of the ACE measures (Dube, Williamson, Thompson, Felitti, & Anda, 2004). An additional limitation of the retrospective nature of abuse and neglect data is that I cannot know the timing or duration of the adversities, which can impact mental health and maladjustment behaviors such as substance use (Monnat & Chandler, 2015). This also makes it difficult to know the temporal order of adolescent substance use behavior and the adversity, so while I do control for adolescent substance use, I cannot be sure that the adversity occurred before respondents started engaging in substance use. The inability to establish temporal order between substance use initiation and adversity should not strongly impact the results since I am examined substance misuse in young adulthood which we know started after the initial adversity experience.

This study examined only adolescent perceived social support instead of other forms of social support, so it is possible that instrumental, informational, and appraisal support may have different relationships with early life adversity and substance misuse. Perceived social support has been found to be a stronger predictor of mental health and adjustment than actual support, so it can still have important impact on substance misuse or abuse (Brinker & Cheruvu, 2017). I was unable to assess the quality of the relationships in respondents' social networks so I could not determine if their friends, mentors, and family were adequate protective influences in their early lives. Also, I was unable to account for adult perceived social support which may have a stronger impact on substance use in young adults. I do control for marital status which is a source

of adult support related to substance misuse, so it may be an indicator of the relationship between young adult social support, substance misuse, and early life adversity. The current study may have also been influenced by unmeasured factors that were associated with the variables of interest, but I adjusted for the characteristics that are often controlled in early life adversity studies and discussed in the literature (Monnat & Chandler, 2015).

The early life adversity, perceived social support, and substance misuse measures were all derived from self-reports, which could lead to under- or over-reporting of experiences and behaviors. With this potential limitation, it can be argued that an individuals' perception of their experiences, support, and substance misuse may be of greater consequence in the assessment of young adult experiences and behaviors than the objective reliability of such reports (Poole et al., 2017). While the substance misuse is likely under-reported in the study, this suggests that the estimates are conservative and the problems with substance misuse for those with early life adversity may be more pronounced.

CONCLUSION

Despite these limitations, this study has extended early life adversity and social stress research by examining the relationship between ACEs, social support, and young adult substance misuse. Cumulative early life adversity and domains of adversities are harmful to young adults and contribute to substance misuse. Social support plays a complicated role between early life adversity and substance misuse, in that support does not moderate the relationship between cumulative adversity and substance misuse. However, social support serves as a buffer between some domains of adversity and substance misuse, and an aggravator for other domains and heavy alcohol use and smoking. This suggests that interventions should recognize the dual effect of social support on those who experience early life adversity, and that social support may not be an

effective tool to help those who experienced multiple or certain domains of adversities. It will be essential to encourage constructive coping skills and other methods that may reduce substance misuse in young adulthood, especially for those who experienced adverse events.

Future research should continue to investigate domains of early life adversities and their relationship with other health-risk behaviors across the life course. In addition to smoking, illicit drug use, and heavy alcohol use, we can consider other forms of substance misuse, or examine substance misuse behaviors together since these behaviors often cluster (Needham, 2007). Researchers can also examine the timing, severity, and duration of domains of adversities to see if the relationship with substance misuse and other behaviors vary by those factors. Although this study considered sociodemographic variation with gender-stratified analyses, research can also investigate whether these relationships vary by other sociodemographic characteristics such as race/ethnicity or socioeconomic position. We should continue to explore social support and other potential moderators in the relationship between ACEs and health-risk behaviors to design interventions and improve population health.

CHAPTER IV

Racial Differences in Meanings and Experiences of Depression and Help-seeking

INTRODUCTION

The high rate of untreated depression among US adults, specifically African Americans, are public health problems with implications for population health. Depression, a mental health condition, can result in severe impairments that interfere with or limit one's ability to carry out major life activities (U.S. Department of Health and Human Services [HHS], National Institutes of Health [NIH], National Institute of Mental Health [NIMH], 2019). Studies have indicated women are at higher risk of depression than men; approximately one-quarter of American women experience depression in their lives and ten percent of women are depressed at any given time (Beauboeuf-Lafontant, 2007; Borum, 2012). The consequences of depression disorders like major depressive disorder are costly for both individuals and society; depression is the leading cause of disability in the US of people between ages 15 and 44 years old (U.S. Department of Health and Human Services [HHS], National Institutes of Health [NIH], 2010). The disability burden of depression can reduce productivity and population well-being and lead to severe economic costs; for example, in 2010, the estimated costs associated with major depressive disorder was over $200 billion in the US (Greenberg, Fournier, Sisitsky, Pike, & Kessler, 2015). Fortunately, depression is a mental health condition that has multiple treatment options to help manage it but only about 20% of depressed Americans receive treatment (Beauboeuf-Lafontant, 2007). The rates of treatment are even lower for African Americans as they are underdiagnosed

and undertreated for psychiatric disorders and as few as seven percent of depressed African American women receiving treatment (Beauboeuf-Lafontant, 2007; Jackson, 2006). Statistics along with several studies suggest that depression may be both a raced and gendered phenomenon that places African American women in a unique position when it comes to developing and seeking treatment for depression because of women's higher risk for depression and African American's lower utilization of mental health services (Beauboeuf-Lafontant, 2007). However, we need further knowledge about the causes and potential explanations for these gender and racial differences in mental health and illness and help-seeking for a comprehensive understanding of depression and treatment disparities among African American women. This study examines racial/ethnic mental health disparities by exploring the racial differences among American and White American women in the experiences and meanings of depression and barriers to help-seeking.

Past research has shown complex and inconsistent relationships between the rates and impact of depression by race and gender. Depression has many causes that include biological, genetic, trauma, and adverse life events, and studies have found that people who experience more psychological stressors are at higher risk for developing depression (U.S. Department of Health and Human Services [HHS], Substance Abuse and Mental Health Services Administration [SAMHSA], 2001). African Americans are disproportionately part of lower socioeconomic position and often encounter covert and overt racism and discrimination that leads to multiple social stressors and high levels of stress (HHS, SAMHSA, 2001; Williams et al., 2007). Based on the depression and stress literature, we would assume that African Americans would experience high levels of depressive symptoms and diagnosed depression disorders. However, large epidemiological surveys have shown that African Americans have

lower lifetime and 12-month rates of major depressive disorder compared to their non-Hispanic White counterparts (Williams et al., 2007). The depression results are particularly mixed for African American women because while studies have found women are at higher risk of depression than men, the pattern may not follow for African American women. Some research has found that African American women are at higher risk for depression than White American women and exhibit more depressive symptoms than other racial/ethnic groups, but other studies have found that African American women have equivalent or even lower rates of depression than their White American women counterparts (Borum, 2012; George & Lynch, 2003). If studies and physicians are unable to understand and agree on the risk and rate of depression for African American women, then depressed African American women may be overlooked and denied mental health resources that can them manage their condition. It is important to investigate and understand the reasons for the inconsistent depression findings for African American women, and to know whether they are at higher or lower risk for depression because that has consequences for the types of interventions and resources that are provided to either help them maintain or improve mental health.

Potential explanations for the inconsistent measured rates of depression in African American women may be racial differences in experiences of depression. Some studies have found differences in the clinical presentation and meaning of depression between African Americans and White Americans (Ayalon & Young, 2003). African Americans who are distressed or depressed may present their symptoms according to certain idioms of distress, such as irritability or anger, which may differ from what most clinicians are trained to expect (Bryant, Haynes, Greer-Williams, & Hartwig, 2014). A different presentation of symptoms may cause clinicians to under-diagnose depression in African Americans and misdiagnose them with other

mental health disorders (Bryant et al., 2014). An additional consequence of racial differences in symptomatology is that African American women may not recognize their feelings or symptoms are depression because they do not fit with the dominant narrative and image associated with depression. Depression has been racialized as a White illness, specifically a White American woman illness, that manifests in crying, hysteria or difficulty functioning and completing responsibilities; it is possible that African American may be unable to recognize their own struggles or symptoms as manifestations of depression (Beauboeuf-Lafontant, 2007). The racial differences in manifestations of depression and racialization of depression as a White illness may contribute to the inconsistent rates of depression diagnoses among African American women. However, the existing literature of the symptomatology of depression between African American and White American women have been limited to quantitative surveys and a low number of qualitative studies that focus on African American women's experiences of mental illness (Ayalon & Young, 2003; Borum, 2012; Nicolaidis et al., 2010). Once we understand how the presentation of depression differs between African American and White American women and how they interpret their symptoms, then we can understand the reasons for the inconsistent findings about African American women's mental health and continue to examine some of the causes of the unmet mental health needs among African Americans.

The unmet mental health needs of African American women may stem from low mental health services utilization as African American face barriers, like stigma, to depression care. Studies have found that only 48% of African Americans with major depression disorder receive mental health treatment, and less than one-third of African Americans with a diagnosable mood disorder consult a healthcare provider of any kind (Williams et al., 2007). Research has suggested that African Americans, who are disproportionated situated in lower socioeconomic

position, lack access to mental health services because of high cost of care, the risk of missing work in low-wage jobs, or lack of insurance coverage for specialty services (Carpenter-Song et al., 2010). However, racial/ethnic minority populations remain less inclined to use mental health services even when covered by insurance; in general, African Americans are less likely than White Americans to seek specialty mental health care, accept recommendations to take antidepressants, or view counseling as an acceptable treatment option (Carpenter-Song et al., 2010; Nicolaidis et al., 2010). These facts suggest that socioeconomic constraints may not be the main barrier to African Americans seeking depression care, but there may be other cultural barriers. A well-established and significant cultural barrier to help-seeking is stigma, which is when someone views an individual in a negative way or with extreme disapproval because he or she has a distinguishing characteristics or personality trait that is thought to be a disadvantage (Mayo Clinic, 2017). Stigmatizing behavior can take many forms including social distancing and discrimination that can make the stigmatized individual feel isolated and inadequate (Campbell & Mowbray, 2016). While the experience of stigma is universal and common for those with mental illness, the impact of stigma can be different, and arguably worse, for African Americans (Campbell & Mowbray, 2016). Historically, African Americans have been stigmatized and marginalized because of their race, and there is concern among some African Americans that adding another stigmatizing identity in the form of mental illness can have severe consequences for people of color (Campbell & Mowbray, 2016). Many African Americans believe that the stigma attached to mental illness is felt more strongly in African American communities and families because of social proscriptions to keep matters private and not to discuss their struggles with others (Carpenter-Song et al., 2010; Conner et al., 2011). Studies have found that African Americans believe people in White communities are more accepting of depression and

vulnerability than African American communities (Carpenter-Song et al., 2010; Mishra, Lucksted, Gioia, Barnet, & Baquet, 2009). African Americans are more likely to fear that they will be treated negatively, discriminated against, or socially excluded if others found out any mental health problems they may experience (Carpenter-Song et al., 2010; Mishra et al., 2009). The fear of being stigmatized and experiencing a loss of social status may be a factor in the depression experience of African Americans and prevent a large proportion of depressed African Americans from seeking help and treatment for mental health issues.

The stigma of depression and mental health treatment can be more pronounced for African American women. African American women are expected to be a "strong Black woman" and project an image of strength to others at all times (Campbell & Mowbray, 2016). In fact, African American women are encouraged to racialize struggle and hardship as central manifestations of being authentically Black, and the expectations to be strong amidst struggle can be internalized (Beauboeuf-Lafontant, 2007). Internalizing the strength mandate of Black women and attempting to live up to expectations of strength and struggle can lead to depression and force African American women to ignore or mask signs of depression (Beauboeuf-Lafontant, 2007). African American women who are depressed may be afraid to admit to themselves or friends because depression has been racialized as a White illness or a sign of weakness, while African American people's abilities to endure and overcome adversity is viewed as a source of pride in the African American community (Alang, 2016; Beauboeuf-Lafontant, 2007). In fact, the experience of stigma and depression may be different for White American women as studies have found that White Americans are more likely to conceptual mental illness as chronic conditions that are permanently disabling without management (Carpenter-Song et al., 2010). African Americans, on the other hand, are more likely to view mental health problems

and treatment as temporary and peripheral to everyday life because they still have responsibilities and expectations to uphold regardless of their mental health status (Carpenter-Song et al., 2010). Studies have found that the pressure to be "strong" for African American women discourages them from seeking medical care because the acceptance of a mental health diagnosis is viewed as the antithesis of the strength discourse (Nicolaidis et al., 2010). However, most of the research on stigma and mental illness focuses on mental illnesses other than depression, with only a small subset of that research examining the experiences of African Americans and even fewer examining depression and stigma of African Americans (Campbell & Mowbray, 2016). It is important to continue to explore African American women's experiences with stigma and the strength mandate both within society and families to understand how impacts help-seeking. We also need to continue to explore other cultural barriers to help-seeking and depression care that may help explain the mental treatment disparities and potentially reduce the disproportionate unmet mental health needs of racial/ethnic minorities.

Cultural mistrust in the healthcare system including mental health specialists and treatment recommendations may contribute to the racial disparities in mental health treatment. Studies have found that African Americans are more likely to view the healthcare system as a "White" system, meaning that the system is racially biased against racial/ethnic minorities (Nicolaidis et al., 2010). African American women often describe negative experiences with healthcare providers such as providers not spending enough time with them, not listening to their needs and respecting their intelligence, not providing adequate explanations, and breaking their trust (Nicolaidis et al., 2010). While these may be relatively common complaints from patients about their physicians, these negative experiences were almost attributed to racism by African American women and confirmed and added to their mistrust of the healthcare system (Nicolaidis

et al., 2010). A mistrust in the healthcare system can discourage African American women from seeking mental health care from physicians and specialists, even though depression often requires some form of medical care to manage the condition (Nicolaidis et al., 2010). African American women are more likely than any other racial/ethnic and gender group to seek help from ministers and other informal sources of support like family and friends when struggling with hardship or mental health concerns (Beauboeuf-Lafontant, 2007; Cooper et al., 2003). To combat some of the cultural mistrust and stigma of African Americans, there have been recent efforts to raise awareness about mental health disorders among African American through targeting the strength mandate and beliefs about therapy and medication (Williams, Gorman, & Hankerson, 2014). However, it is unclear whether these recent efforts and campaigns are reaching African American women and reducing the stigma associated with mental illness and the negative perceptions and experiences with health care providers. It is important to investigate the cultural and structural barriers to mental health care treatment for African American women and whether efforts to encourage help-seeking have been effective.

This study aims to contribute to sociological literature and extend culture and social psychology of health and illness scholarship by exploring the racial differences among African American and White American women in experiences and meanings of depression, stigma, and barriers to help-seeking. Based on the existing literature, we know there are inconsistent measurements of depression rates in African American women and racial disparities in utilization of mental health services. However, we know relatively less about the explanations for these inconsistent measurements and service disparities such as the views and meanings that African American ascribe to their depression experiences and mental health treatment. Also, while much of the mental health and race literature juxtapose the African American experience

with the White American experience of mental illness to discuss the racial differences in mental health, few qualitative studies include both African American and White American women or compare their beliefs about depression and help-seeking (Beauboeuf-Lafontant, 2007; Borum, 2012; Campbell & Mowbray, 2016; Nicolaidis et al., 2010). Without a comparison between African American and White American women in qualitative studies to explore how cultural differences in beliefs about mental health, researchers are forced to make assumptions and rely on past research about White American women's experiences of depression, making it difficult to examine the full extent of the racial differences in the experiences of depression or the barriers to mental health services. Better understanding of the racial differences in depression beliefs and help-seeking will allow us to design effective interventions that may raise awareness about depression and increase help-seeking among African American and White American women but will be particularly informative and important African American women

BACKGROUND

Culture and meaning-making in mental health

Culture and the social psychology of health explore how individuals and groups conceptualize and respond to illness. Spillman (2001) defined culture are processes of meaning-making and social interactions can influence people's beliefs and actions. Through these interactions, meanings, values, and social norms are established but there are not universally shared meanings that are consistent within a given group or society (Spillman, 2001). Values and social norms often change according to the social context and interactions with others, for example an individual's norms or behaviors may be considered acceptable with one group of friends but deemed unacceptable with a different set of friends or family members (Spillman, 2001). Culture is not only shaped by interactions with others but by the wider society; there are

social institutions and structural inequalities that also impacts how individuals view themselves and their beliefs and norms (Carpenter-Song et al., 2010). When thinking about mental health, some of the most important considerations are how cultural systems of meaning, social relationships, and social structure, influence the mental health and psychological well-being of the individuals in social groups and systems (Horwitz, 2002). In fact, culture affects how illnesses are identified, defined, and made meaningful; how they vary with respect to timing and onset, presenting symptoms, course, outcomes, treatment utilization, and responses (Carpenter-Song et al., 2010). Different representations and beliefs about illness lead to different ways of coping with symptoms, such as neglect, denial or active help-seeking; people will seek help in medical, traditional, or alternative directions or will seek no help at all depending on their beliefs (Prins, Verhaak, Bensing, & Van der Meer, 2008). Conrad (1985) found that patients with epilepsy are active agents in their treatment, meaning that they have their own ideas about taking medication, which only in part came from doctors, and that impacted their use of medications. The way that patients viewed what the medication represented in their lives, whether it was a means to normalcy, a reminder of "differentness," or a way to gain personal control over their condition, influenced whether took their prescribed medication (Conrad, 1985). It is important to investigate to investigate meaning-making and individuals' beliefs about their social groups and life experiences because their social meaning and interpretation of mental illness can impact their mental health and help-seeking behavior.

Differences in the meanings of mental illness such as depression and treatment can help explain some of the mental health treatment disparities between African American and White American women. The social context and experiences of social groups impact how different view groups view mental illness and treatment as well as the likelihood of them seeking mental

health care (Prins et al., 2008; Spillman, 2001). Patients with depression often have different views from health practitioners about what interventions are best for them, adherence to treatment and what influences their help-seeking (Prins et al., 2008). Even among people with depression, ideas about treatment and healthcare vary across sociodemographic characteristics and life experiences; for example, African American women are less likely to comply with prescribed treatment recommendations and to find antidepressant medications acceptable (Carpenter-Song et al., 2010). For African American, their help-seeking behavior depends on their social contexts, which include the nature of their stressors, beliefs about depression, and responses to stress (Alang, 2016; Spillman, 2001). A social group's beliefs and norms influences what members of the group value and their actions, and for African Americans who experienced negative interactions with healthcare systems and believe that strength is the most important quality then acknowledging mental illness may not be of value. Traditional mental health services rely upon individuals with mental disorders to assume dependence on providers, but studies have found that role may be unacceptable for many racial/ethnic minorities including African American women (Carpenter-Song et al., 2010). A reluctance to depend on may explain why racial/ethnic minorities may not seek mental health treatment or adhere to treatment plans because it represents reliance on others they may not trust. It is likely that cultural differences between racial/ethnic groups is partially responsible for African American women's lower utilization of mental health services.

Racial differences in the meanings and experiences of depression

There may be racial and gender differences in how African American women perceive mental illness that impacts their beliefs about and experiences of depression. While the literature that describes meanings and perceptions of mental illness among African Americans is limited,

research has shown that White Americans are more comfortable with professional biomedical understandings of mental health problems (Carpenter-Song et al., 2010). Biomedical models of mental health disorders link mental illness to abnormalities in brain function, hormonal imbalance and other biological causes; in essence, the causes of mental illnesses are considered genetic, chemical, or physical changes in the brain (Alang, 2016). A study of severely mentally ill adults found that White Americans are more comfortable applying clinical labels to themselves, understand and accept diagnostic language, and subscribe to individualistic disease-oriented understandings of mental illness than racial/ethnic minorities (Carpenter-Song et al., 2010). African Americans are less likely to subscribe to genetic or biomedical models of mental illness; instead they are more likely to emphasize supernatural forces and the existence of disharmony between one's self, their social context, and community values as causes of mental illness (Belgrave & Allison, 2010; Carpenter-Song et al., 2010; Schnittker, Freese, & Powell, 2000).While White Americans are more likely to make their mental illness a main priority and center of their lives, African Americans are more likely to downplay and normalize mental illness in their everyday lives and resist applying clinical labels to themselves (Carpenter-Song et al., 2010). Some scholars have proposed that African Americans are more skeptical of genetic and biomedical models of mental illness because early studies of racial differences in health, behavior, and cognitive ability often assumed that African Americans were genetically predisposed to criminal behavior, poor health, or poor cognitive abilities compared to White Americans (Alang, 2016). In fact, some studies have found that racial/ethnic minorities often do not consider depression a "real sickness" unlike a physical ailment such as heart failure because it seems to only exist in the mind (Alang, 2016). Also, African Americans are more likely to believe that they must deal with negative feelings and do not have time for depression, especially

older African Americans (Conner et al., 2011). For those who feel depression is not an illness, they sometimes believe it can be cured by socializing, ignoring it, and using other coping mechanisms such as drinking to manage it (Alang, 2016). African Americans may be hesitant to accept any genetic explanations of mental illness and attach different meanings to mental illness to uphold the image of their culture and selves.

African American women attach cultural meanings to African American womanhood that impacts their beliefs and the significance of depression. Studies and literature have applauded African Americans' ability to sustain a high degree of mental health and people tend to believe that African Americans have endured so much historically while demonstrating resilience, which leads to almost an expectation that African Americans can deal with anything (Campbell & Mowbray, 2016). This expectation can lead to African Americans believing that African Americans do not get depression and considering any kind of mental health problem as a form of weakness and that to overcome depression you need to rely on inner strength without acknowledging it (Alang, 2016). The importance of strength in the presence of stress or poor mental health is particularly important for African American women; being strong has consistently emerged as a culturally distinctive aspect of African American women's experiences of depression (Beauboeuf-Lafontant, 2007). African American women often combat the stress of racial and gender inequality through relying on an image of strength through adversity and believe that "strength" is a cultural mandate; struggles and adversity are viewed as essential to being strong, and by exhibiting strength through that adversity is how one earns the badge of a "real" African American woman (Campbell & Mowbray, 2016; Beauboeuf-Lafontant, 2007). Depression has also become racialized and gendered as a White, specifically White woman illness, in that White women with depression are viewed as idle, spoiled, or hysterical

(Beauboeuf-Lafontant, 2007). Depression for White American men may be characterized as a sign of genius while depressed African American men are demonized or pathologized, but for African American women with depression, the overwhelming opinion is that she is weak (Beauboeuf-Lafontant, 2007). Studies have found that African Americans are more likely to believe that you "make yourself mentally ill by choosing to give into your problems," and that giving into your problems and experiencing depression signify weakness and that weakness is intolerable (Alang, 2016; Beauboeuf-Lafontant, 2007). The racialized and gendered language around depression may force African American women not only to contemplate the existence of a mental illness, but also their identity as an African American woman (Campbell & Mowbray, 2016). The internalized beliefs about African American womanhood may lead to the denial of depression or differences in the clinical presentation of depression that are more acceptable to them but may negatively affect their mental health and contribute to misdiagnoses or under-diagnoses of depression in African American women.

Racial differences in depressive symptoms and manifestation

There is evidence that cultural differences in the clinical presentation of depression may contribute to the inconsistent measured rates of depression among African American women. The 5th edition of the Diagnostic Statistical Manual provides systematic guidelines for classifying depression, which healthcare providers use to determine whether patients should be diagnosed with depression (Alang, 2016). Major Depressive Disorder (MDD) is characterized by the presence of five of the following symptoms nearly daily over a two week period: depressed mood, markedly diminished interests in all or most activities, change of more than 5 percent of body weight or decrease or increase in appetite, insomnia or hypersomnia, psychomotor agitation, fatigue or loss of energy, feelings of worthlessness or inappropriate/excessive guilt,

diminished ability to think or concentrate, and recurrent thoughts of death or suicide (Alang, 2016). However, African Americans who are depressed and distressed may present symptoms in ways that are not operationalized in the current diagnostic tools that clinicians and researchers are trained to utilize to assess depression. African Americans tend to report fewer cognitive-affective symptoms then do White Americans at similar levels of depression; Ayalon and Young (2003) found that at all equal levels of depression, African Americans report less pessimism, self-blame, self-dislike, suicidal ideation, and dissatisfaction. While African Americans still report traditional depressive symptoms described in the DSM-V such as feelings of hopelessness and helplessness and social withdrawal, but in addition to those classic symptoms they are also more likely to report externalizing behaviors (Alang, 2016; Nicolaidis et al., 2010). Externalizing behaviors may include rage, aggression, and irritability; some scholars have suggested that the externalizing behaviors and manifestation of depression among African Americans may be an adaptive reaction to their social and environmental conditions (Alang, 2016; Ayalon & Young, 2003). African Americans' guardedness and interpersonal vigilance that may stem from racist experiences and discrimination can be interpreted as aggression and agitation, but these behaviors might actually serve as adaptive mechanisms among African Americans (Ayalon & Young, 2003). However, clinicians may focus on cognitive-affective symptoms and traditional characterizations of depression, which can lead to misdiagnosis of African Americans and explain why African Americans are more likely to be incorrectly diagnosed with schizophrenia and less likely to be diagnosed as suffering from an affective disorder (Ayalon & Young, 2003; Neighbors et al., 1999). It is possible that the instruments for measuring depression in surveys and by healthcare providers may not fully capture depression among African Americans, which may lead to lower estimates of depression prevalence (Alang, 2016). It is essential to understand

the racial differences in depressive symptoms and potential causes of these differences to inform healthcare providers' guidelines for depression diagnosis and to understand how these different symptoms may relate African Americans' help-seeking behavior and mental health disparities.

Racial differences in depressive symptomatology may be related to differences in the meaning attributed to mental health and have consequences for whether African Americans' seek help for their distress or depressive symptoms. In addition to cognitive-affective symptoms and externalizing behaviors, African Americans are also more likely to report somatic or physical symptoms as indicators do depression than White Americans (Alang, 2016; Ayalon & Young, 2003). African Americans are more likely to report more insomnia, loss of libido, headaches, hot flashes, chest pain heart, chills, dizziness, physical weakness, and appetite change than White Americans, and many of these symptoms are not recognized in the DSM-V as MDD (Alang, 2016; Ayalon & Young, 2003; Snowden, 1999). The presentation of distress and somatization of symptoms of African Americans may be related to the stresses presented and the coping mechanisms and resources available to them (Chung & Singer, 1995). Somatization may serve as a coping style that "protects" depressed African Americans from feelings of sadness and allows them to remain productive and functioning in their lives (Ayalon & Young, 2003). There are somatic symptoms listed in the DSM-V as depressive symptoms such as hypersomnia and concentration problems, but these symptoms are more likely to be reported in depressed White Americans than depressed African Americans (Ayalon & Young, 2003; Dauvilliers, Lopez, Ohayon, & Bayard, 2013). The somatic symptoms in African Americans that are unrecognized in the diagnostic criteria for depression can cause clinicians to miss depression in African Americans especially since somatic and externalizing behaviors are often considered symptoms for other mental health problems like trauma and stress-related disorders (Alang, 2016). In fact, a

study found that African Americans reporting more somatic symptoms led to a bias in the diagnosis of depression using the Beck Depression Inventory (BDI), with White Americans receiving a higher BDI score than African Americans with the same severity of depression (Ayalon & Young, 2003). Somatization of depression may also make it difficult for African Americans to recognize their depressed because they rely on the characterization and symptoms that are presented by clinicians and the media that focus on cognitive symptoms (Alang, 2016). Some African American women shape their images of what depression by cultural messages they receive by depression and believe that those images are often of White American women who seem unable to deal with life or function (Campbell & Mowbray, 2016). These images may make it difficult for African American women to realize that depression can affect them and manifest in different ways which may have consequences for the recognition of depression (Beauboeuf-Lafontant, 2007). The racial differences in the presentation of depression may lead to African American women delaying effective treatment or seeking help for depression because they may be unable to recognize their depressed mood and symptoms, and the delay in seeking treatment can have consequences for psychological well-being.

Racial Differences in Help-Seeking and Mental Health Treatment

Racial differences in help-seeking and mental health treatment may contribute to the prevalent racial disparities in mental illness, disability, and chronic conditions in the United States. African Americans bear a greater disability burden and suffer a greater loss to their *overall* health and productivity than White Americans because of greater unmet mental health needs (Boardman & Alexander, 2011; Cooper et al., 2003). According to the American Psychiatric Association, evidence-based psychotherapies and antidepressant medications are recognized as acceptable forms of treatment of patients with moderate to severe depressive

disorders and can also be used for individuals with mild depression (American Psychiatric Association, 2000; Jackson, 2006). However, African Americans are less likely than White Americans to use and to receive appropriate and adequate depression care or mental health care of any kind (Beauboeuf-Lafontant, 2007; Carpenter-Song et al., 2010; Nicolaidis et al., 2010). Studies have shown that African Americans are more likely to seek help from family members for depressive symptoms than healthcare professionals (Beauboeuf-Lafontant, 2007; Lin, Inui, Kleinman, & Womack, 1982). For African Americans who do seek outside help for mental health problems, they are more likely to get care in general medical settings where primary care physicians are less likely to detect, treat, refer, or actively manage depression in minority patients than in White patients (Cooper et al., 2003; Nicolaidis et al., 2010). In some primary care settings, providers recognize depression and recommend treatment for African American patients at equal rates to White American patients, but even when recognized, attrition from psychotherapy and pharmacology are higher for African Americans than White persons (Cooper et al., 2003; Miranda & Cooper, 2004). African American women are less likely to seek medication management for depressive symptoms and less likely to fill prescriptions for antidepressant medication but more likely to view spirituality as a coping strategy for depression than White Americans and believe medications are addictive with harmful side effects (Cooper et al., 2003; Jackson, 2006; Nicolaidis et al., 2010). While there may be many reasons for the racial disparities in mental health treatment such as limited access to services, spirituality, and preferences for informal support from family and friends, another potential and less studied factor may be the cultural meaning and attitudes toward help-seeking and mental health care (Cooper et al., 2003; Miranda & Cooper, 2004). Studies have shown important barriers to mental health care for African Americans are patients' perceptions of stigma, the beliefs that problems

should not be discussed outside one's family, mistrust of health care professionals, and the need to uphold an image of strength to the family and the wider would (Beauboeuf-Lafontant, 2007; Cooper et al., 2003; Nicolaidis et al., 2010). The internalized beliefs about self and strength and fear of healthcare systems and judgment from others may prevent African American women from seeking help for depressive symptoms or adhering to treatment plans that may alleviate those symptoms, which eventually can negatively impact African American women's health.

Potential explanations for racial differences in mental health treatment and help-seeking behavior

Strong Black Woman Mandate

The expectation and desire for African American women to be strong and tough can be a barrier to seeking help for depressive symptoms. The image of strength stems from African American women's survival of enslavement and continued socioeconomic marginalization, and the image contrasts African American women to normative feminine, White, middle-class women (Beauboeuf-Lafontant, 2007). The "strong black woman" narrative has high status within both African American communities and the larger society because the idea of strength is typically viewed as an honorable alternative amid denigrating stereotypes generated by the larger society (Beauboeuf-Lafontant, 2007). African American women, like most women are expected to be caretakers in their families and communities, but African American women are also expected to face struggle and adversity while caring for their loves ones and this struggle becomes a symbol of "true black womanhood" (Beauboeuf-Lafontant, 2007). However, the expectation of strength has been likened to a performance and a façade rather than an honest reflection of African American women's experiences as it focuses on an African American woman's outward behavior while ignoring her actual emotional or physical condition

(Beauboeuf-Lafontant, 2007). The "strong black woman" moniker is essentially about appearing strong and affecting a persona and performance of managing a difficult life with dignity and composure (Beauboeuf-Lafontant, 2007). The emphasis for African American women to display their strength through mustering through adversity and supporting others can contribute to high levels of stress and poor mental health.

African American women, who try to live up to cultural expectations of strength, may struggle in secret to appear strong. Campbell and Mowbray (2016) found that African Americans are more likely to believe that they must project an image of "strength" to others; the desire to present one's self as strong often forces African Americans to deny any experiences of depression. The term "Sisterella Complex" was coined to dramatize the capacity of the strength discourse to mask a loss self under extreme duress and suggests African American women suffer quietly to seem strong (Jones & Shorter-Gooden, 2003). The strength discourse normalizes struggle and selflessness and encourages African American women to appear superhuman while failing to consider their humanity or the reality of their individual lives which can worsen their mental health (Beauboeuf-Lafontant, 2007). Another important consequence of the "strong black woman" mandate is that some African American women believe that seeking treatment for any mental health struggles is a sign of weakness and the pressure to be a strong African American woman discourages them from seeking medical care or accepting a mental health diagnosis (Nicolaidis et al., 2010). Studies have found that African Americans are more likely to believe that counseling brings up bad feelings and those feelings can cause people to be depressed, so there is sometimes a culture of denial and secrecy to appear strong and mental health in African American families (Cooper et al., 2003**).** The cultural mandate that African American women

must maintain an image of strength for others may make it difficult to accept feelings of distress or seek help for depression without worrying about stigma and appearing weak.

Stigma

The stigma surrounding mental illness within and outside the African American community may prevent African Americans from openly discussing and seeking help for depression. According to labeling theory of mental illness, the application of deviant labels like "depressed" or "mentally ill" to individuals lead to changes in the labeled person's self-perceptions and social opportunities (Yang et al., 2007). A person labeled with a mental disorder may have to contend with negative mental illness stereotypes that are learned through socialization and reinforced daily, and these stereotypes can lead to internalized shame, fear of losing social standing and fewer life opportunities (Campbell & Mowbray, 2016; Yang et al., 2007). People with mental disorders may also feel that stigma stems from others lacking understanding or knowledge of what a specific disorder is, and there may fear that lack of understanding may lead to an actual or potentially negative reaction (Schneider & Conrad, 1980). Many African Americans believe that stigma of mental illnesses like depression is stronger in African American communities because individuals in the community lack information about mental disorders and treatment (Campbell & Mowbray, 2016). African Americans are more likely to present characterological explanations for depression for depression such as laziness or weakness, which contributes to mental illness stigma by fostering judgment and shame of depressed people (Alang, 2016). If African Americans fear that people will not understand a mental health condition or judge them harshly if they have one, then they may feel that ignoring or hiding any distress or potential mental health problems is the only way to maintain important social ties.

While stigma can damage personal relationships, it can also limit individuals' economic and social opportunities within the wider society. Scholars have posted that for groups like African Americans who historically marginalized statuses, the desire to protect one's social status can lead to high levels of stigma in the community (Campbell & Mowbray, 2016). For African Americans, the recognition of mental illness and adopting another potentially stigmatizing identity can come with serious threats to one's already precarious social status and reputation (Campbell & Mowbray, 2016). Psychiatric diagnoses and mental health treatment may carry dire social consequences because they fear ridicule, disparagement, and even retaliation on account of mental illness as they are faced with a pressure to represent and uphold the African American community in wider society (Carpenter-Song et al., 2010). Fear and a desire to be "normal" and to lead conventional lives make the potential of stigma isolating because people may feel forced to hide their condition or attempt to control information about their condition causing them to socially withdraw from others (Campbell & Mowbray, 2016; Schneider & Conrad, 1980). African Americans sometimes turn to those outside of their families and racial/ethnic communities for support in an attempt to hide their depression and maintain social ties in the community, but for other African Americans the fear of being labelled and losing social status can cause them to hide their illness from everyone and avoid mental health treatment regardless of how much they need it (Alang, 2016; Campbell & Mowbray, 2016). While there have been interventions to educate African Americans about mental illness and reduce stigma, the negative views about depression and other mental illnesses continue to be held and in some cases even strengthened (Campbell & Mowbray, 2016). It is important to explore and understand the types, impact, and nuances of stigma on African Americans to design

effective interventions to encourage the discussion about mental health and help-seeking to reduce unmet mental health needs.

Racialized and gendered notions of depression may place depressed African American women at higher risk for stigma, judgment, and fear of negative interactions with others. The characterization of depression as "White woman illness" can depression to be viewed as an indictment of both one's mental status and racial status because African Americans are expected to be strong regardless of their experiences (Campbell & Mowbray, 2016). Even the action of expressing distress through emotions such as sadness or crying are frowned upon by some African Americans because it is considered a sign of weakness, a sign that the person is not strong enough to handle life's difficulties (Alang, 2016). If stigma is considered in the context of the strength discourse that surrounds African American women, then for African American women who have mental health problems they are considered "weak" or "crazy" and ultimately less of a "true Black woman" (Campbell & Mowbray, 2016). African American women may experience and internalize shame and feel reluctant to discuss their depressive realities to family and friends out of fear of negative responses by them (Beauboeuf-Lafontant, 2007). While some research has found that African Americans more than other racial/ethnic groups desire larger physical and social distance from those with mental illness, research has also found that African Americans are the least likely of all racial/ethnic groups to exclude their family members from their familiar networks because of severe mental illness (Carpenter-Song et al., 2010). However, many African Americans still express fears of experiencing stigmatizing attitudes from family and friends and would rather not risk any disruptions to their relationships and prefer to keep their mental health experiences or problems private (Campbell & Mowbray, 2016). Keeping mental health struggles private may be harmful for African American women because

researchers have posited that supportive female networks are critical to African American women's well-being and survival amid adversity (Beauboeuf-Lafontant, 2007). Recent research has found that depressed African American women rarely speak of their distress in their closest women networks because they associate depression with moral weakness, and they do not want to appear weak to their family and friends (Beauboeuf-Lafontant, 2007). Along with the fear of judgment from family and friends, African American women also fear that they have more to lose if diagnosed with depression and their employers find out because they are already dealing with two marginalized identities that often make it difficult gain respect in the workplace: being African American and a woman (Campbell & Mowbray, 2016). African American women may fear that the addition of an additional marginalized marker like depression may make it impossible to lose the perception that they can't handle things or be taken seriously in sometimes predominant White spaces like the workplace (Campbell & Mowbray, 2016). While stigma is a major barrier keeping many people with mental disorders out of services, it is a particularly strong impediment for African American women as the fear of responses to depression from family, friends, and the workplace makes mental health treatment seem like a steep social cost instead of a benefit.

Cultural Mistrust in the health care system and treatment

Cultural mistrust in the healthcare system and treatment preferences are additional barriers to help-seeking and effective treatment for African American women. Studies have found that White Americans with mental illness generally view mental health professionals as valued and trusted, while African Americans with mental health issues are more likely to voice resistance toward mental health care (Carpenter-Song et al., 2010). The distrust of the healthcare systems if often generational as many elder African Americans experienced racism and

discrimination during health services, which causes some of them to consider healthcare services as White systems of care that are harmful to African Americans (Nicolaidis et al., 2010). Older African Americans may minimize younger family members' health concerns, advise them to handle issues of their own the way senior family members handle their problems, and instill beliefs about health that conflict with current medical opinions (Nicolaidis et al., 2010). However, studies have found that African American women are often open to treatment and care for mental health problems if medical institutions have a cultural understanding and implement advances that allow for culturally acceptable interventions (Nicolaidis et al., 2010). African Americans are more likely than White persons and Latinx persons to state a preference for seeing a health professional who belongs to their same race or ethnicity, and it was especially true to psychotherapists or counselors where African American women often refuse to talk to counselors who are not African American (Cooper et al., 2003; Nicolaidis et al., 2010). Research has shown that African Americans express more distrust of the healthcare providers' motivations for prescribing antidepressant medication because they feel doctors have a narrow focus on medications and don't care about what their patients need or want (Carpenter-Song et al., 2010). Carpenter-Song et al. (2010) found in a study of patients with severe mental illness that White patients were more likely to trust their providers and view medications as necessary components of their treatment, which made them more likely to seek the advice of mental health professionals and accept their advice and suggestions than African American patients. On the other hand, African American patients were highly critical of clinicians' and believed that they did not care about their patients, which made them resistant to mental health care and served as an obstacle to forging connections with providers and engaging in treatment (Carpenter-Song et al., 2010; Newhill & Harris, 2007). It is important to explore how African Americans and White

Americans think about mental healthcare and treatment especially with the history of racism and discrimination in health care to know how these beliefs contribute to racial disparities in unmet health needs.

Current Study

The objective of this qualitative study is to understand racial differences in meanings of mental illness and beliefs about help-seeking and treatment. I interviewed 34 African American and White American women and explored the following questions: (7) How do African American and White American women conceptualize and define depression? (8) Do the meanings and experiences of depression and help-seeking differ between African American and White American women? I posit that African American women will view depression more negatively than White American women. I also hypothesize that African American women will view seeking help for depression as weakness and will prefer forms of treatment that are outside of traditional medical care (therapy and antidepressants). White American women will have more favorable views of seeking help and traditional medical mental health care. The experiences of depression and beliefs about help-seeking will differ between African American and White American women because of racial differences in different depressive symptoms, cultural mistrust in healthcare systems, and stigma within the African American community.

METHOD

Data Collection

For this study, I utilized a qualitative interviewing approach to gather information about the meanings and experiences of depression and help-seeking among African American and White American women. In health research, the qualitative approach provides more detailed information about the complex experience of health and the nature of health behaviors Campbell

& Mowbray, 2016). Interviews are also appropriate data sources for this study's population because research has shown that when collecting data from African American research participants, they prefer in-person, face-to-face interviews as opposed to telephone or mail (Campbell & Mowbray, 2016). Intensive interviews also allowed me to explore the richness of the participant experiences and illuminate some of the nuances of the racial differences of the beliefs about depression and mental health treatment (Campbell & Mowbray, 2016). Through interviews, I had the opportunity to ask about feelings, thoughts, experiences, and behaviors, and to move the beyond the surface of experiences and gain more details about those experiences (Charmaz, 2006). Data for this study came directly from the information provided by participants through interviews and demographic information forms.

Sample Selection

After approval was obtained from the institutional review board, a purposive sample was recruited. Potential participants were recruited on an institutional online research database that allows researchers to post information about their studies including the purpose and eligibility criteria. The database provided demographic and medical information, including whether they had a diagnosed mental disorder, about registered participants. Eligible participants for this study were African American or White American women between ages 18 and 50 years old. Contact information was included in the information about the study and interested individuals registered on the database could contact me through the database, via email, or on the phone. I also received recommendations and contact information through the database about potential candidates for the study and I contacted those who would be good fits for they study to ask if they were interested in participating. A total of 34 African American and White American

women were selected to participate in the study. As shown in Table IV.2, an equal number of African American and White American participants were in the study.

Sample and Broader Population Characteristics

Participants in the study had similar sociodemographic characteristics except White American women reported higher educational attainment than African American participants. African American participants had a median age of 30 years old compared with White American participants who had a median age of 31 years old. The sample is younger than the general US population because in 2017, the median age of African American women was 34.5 years old and 44.2 years old for White American women (U.S. Census Bureau, 2019). In addition, White American participants were more educated than African American participants with almost twice as many White American women having an advanced degree. There were more African American women who were current undergraduate students than White American women, and a comparable number of participants had a four-year degree across race. However, in 2017, about 14% of African American ages 25 or older had a B.A. degree and 9% had a graduate or professional degree (U.S. Census Bureau, 2019). However, 21% of African American women over age 25 had a B.A. degree in this sample and 29% had an advanced degree; this shows that although the African American women were less educated than the White American women in the sample, they are a much more educated group than the African Americans in the broader population. In 2017, 21% of White American women ages 25 or older had a B.A. degree and 13% had a graduate or professional degree, compared to 18% and 52%, respectively of White American women in the sample. In general, this sample is much more educated and younger than the broader US population across race.

Table IV.1: Participant demographic and mental health characteristics

African American Women					White American Women				
Name	Age	Education Level (Student)	Ever Received treatment	Diagnosed mental disorder	Name	Age	Education Level (Student)	Ever Received treatment	Diagnosed mental disorder
Breanna	23	B.A. or B.S.	Yes	Yes	Hannah	38	PhD	Yes	No
Alicia	30	AA or AS	Yes	Yes	Emma	27	M.A. or M.S.	Yes	Yes
Monica	35	AA or AS	Yes	Yes	Anne	32	PhD	Yes	No
Taylor	47	B.A. or B.S.	No	No	Hailey	32	M.A. or M.S.	Yes	No
Layla	21	SC (student)	Yes	No	Claire	22	TS	Yes	Yes
Mia	20	SC (student)	No	No	Lily	22	B.A. or B.S.	No	No
Jasmine	31	B.A. or B.S.	No	No	Jane	34	M.A. or M.S.	Yes	Yes
Ivy	34	M.A. or M.S.	Yes	Yes	Emery	23	B.A. or B.S.	Yes	Yes
Patra	24	SC	Yes	Yes	Nora	34	HS	Yes	Yes
Brielle	29	M.A. or M.S.	Yes	Yes	Olivia	46	M.A. or M.S.	Yes	Yes
Naomi	34	M.A. or M.S.	Yes	Yes	Sophia	29	M.A. or M.S.	Yes	Yes
Sasha	27	SC (student)	Yes	Yes	Chloe	31	B.A. or B.S.	Yes	Yes
Marissa	44	M.A. or M.S.	No	No	Evelyn	45	B.A. or B.S.	No	No
Tatianna	30	M.A. or M.S.	Yes	Yes	Abby	20	SC (student)	No	No
Grace	50	B.A. or B.S.	Yes	Yes	Luna	31	B.A. or B.S.	Yes	Yes
Sierra	31	SC (student)	Yes	Yes	Carolyn	49	M.A. or M.S.	Yes	Yes
Alyssa	28	SC	Yes	Yes	Emily	27	M.A. or M.S.	Yes	Yes

B.A. or B.S. = Bachelor's degree; M.A or M.S. = Master's degree; SC = Some College; HS = High School; TS = Technical School

Table IV.2: Descriptive statistics of sample characteristics

	African American (N = 17) Mean or %	White Women (N = 17) Mean or %	Full Sample (N – 34) Mean or %
Age	31.5	31.9	31.8
Education Level			
HS	0.0	5.9	2.9
Associate Degree or Trade School	11.8	5.9	8.8
Some College	35.3	5.9	20.6
Bachelor's Degree	23.5	29.4	26.5
Graduate Degree	29.4	52.9	41.2
Current Student	23.5	5.9	14.7
Ever received treatment	76.5	82.4	88.2
Diagnosed mental disorder	70.6	64.7	64.6

African American and White American women in the study had comparable mental health backgrounds that differed from the general US population. Studies have found that the rates of mental illnesses in African Americans are similar to those of the general population, but disparities exist in regard to mental health services (APA, 2017). In this study, a comparable majority of African American and White American participants had diagnosed mental disorders and had ever received any kind of mental health treatment. Studies have found that lifetime estimates of any kind of mental disorder in African Americans are about 40% with African American women reporting more than men or national estimates of 16%, and that black people with any mental illness received treatment in the past year (Lacey et al., 2015; NIMH, 2019). White American women have a reported rate of over 20% for any mental illness and 47% of White Americans with any mental illness received mental health services in 2017 (NIMH, 2019).

In this sample, about 70% of the African American women had a diagnosed mental disorder and three-quarters of them had received treatment or services for mental health at least once in their lives. Similarly, about 65% of White American women in the sample had a diagnosed mental disorder and 80% of them received mental health services at least once before. These statistics suggest that the women in the sample have disproportionately higher rates of mental disorders and engagement in healthcare services for mental health issues, which will impact their beliefs and understanding of mental health.

Interview procedures

Participants were recruited during the spring and summer of 2018, and during this period all 34 women were recruited and completed interviews. The participants were given a $40 Visa gift card for their participation. I conducted semi-structured, open-ended interviews in a central location. Four of the interviews took place at locations of the respondents' choosing such as research buildings and a local hospital. The interviews were conducted using an interview guide to have participants reflect on their beliefs and experiences with mental health, depression, and stigma, and how those experiences and beliefs shaped their behaviors and thoughts about help-seeking. Interviews were audio-recorded with the participants' written permission and ranged from 30 to 90 minutes. At the end of the interviews, the participants completed a demographic form that asked for information about their sociodemographic characteristics, hometown, mental disorder status, and whether they ever received mental health treatment. All participants' names were changed to maintain confidentiality.

Data analysis

The interviews were transcribed verbatim by a professional transcriptionist. I performed a

thematic analysis on the participants' transcripts to detect relevant themes; this approach was selected because it views analysis as a process that allows researchers to identify, refine, and report themes within data (Braun & Clarke, 2006). I theorized participants' beliefs, experiences, and meanings from what they said during their interviews, and generated initial codes about the data. The next steps of the analysis were sorting through the codes while searching for and constructing themes from the participants. I used the data analysis software, Dedoose, to code all of the transcripts. After completing the initial coding, I discussed the preliminary codes and categories with an experienced qualitative researcher then continued to revise them. The revised codes were collapsed into more general and related constructs that allowed me to refine and select the themes that best reflected the data. The codes were aggregated into four broad themes: 1) meanings and experiences of depression, 2) communication about mental health, 3) help-seeking, and 4) the dual role of media in mental health awareness and help-seeking. Within each of these broad themes, multiple subthemes were identified and racial differences in participants' responses were analyzed (see Table IV.3).

Table IV.3: Broad themes and subthemes

Broad Themes	Subthemes
Racial differences in meanings and perceptions of depression	• Marginalized populations at highest-risk of depression • Presentation of depression and depressive symptoms
Racial differences in communication about mental health	• Groups comfortable talking about mental health • Groups uncomfortable talking about mental health • Talking about mental health and illness with family and friends

Racial differences in help-seeking for depression	• Acceptable treatment for depression:
	  ○ Therapy as the most accepted form of treatment
	  ○ Medication as an effective form of treatment
	  ○ Faith and God as treatment preference

	○ Lifestyle changes and confiding in family and friends • Barriers to help-seeking and mental health treatment: ○ Cultural mistrust ○ Strength and depression ○ Stigma
Dual role of media about awareness, stigma, and help-seeking for depression	• Main messages from media campaigns about depression • Negative messages about depression in the media

RESULTS

Racial differences in experiences and beliefs about mental health and illness

There were some racial differences in beliefs about mental health and illness and what it means to have good mental health. When thinking about what it means to be healthy with a mental illness like depression, more White American women than African American participants felt that someone can only be mentally healthy with depression if they managed the condition through treatment. Surprisingly, most African American respondents also believed mental health treatment was important for depressed individuals to be mentally healthy and reach their potential. Only a few African American participants felt that people with mental disorders can be mentally healthy even receiving mental health treatment.

Meanings and experiences of depression

Marginalized populations at highest-risk of depression

Most participants thought marginalized populations were at the highest-risk of depression. A comparable number of African American and White American respondents felt racial/ethnic minorities were at high-risk for depression because of how they are viewed in society and stress they endure through discrimination and inequality. However, while White American women said

that all racial/ethnic minorities were at-risk for depression, one-third of African American women felt African Americans or black people specifically were at high-risk of depression. These African American women felt that black people were at high-risk of developing depression because of financial inequality, institutional racism and discrimination, and expectations by others in the African American community. A comparable number of African American and White American participants, about one-third, believed that anyone can be affected by depression regardless of sociodemographic characteristics. Other groups that participants thought may be at high-risk of experiencing depression were those with low socioeconomic position, women, and LGBTQ individuals because of prejudice and social and economic inequality.

Experiences and presentations of depression

Most participants described depression as an incurable sadness, heavy weight, a feeling of hopeless and lack of interest in the world around them.

Twice as many African American women than White Americans described depression as a dark cloud or mental fog that caused a lack of energy and connection with others. Breanna, a 23-year-old African American recent college graduate who has a diagnosed mental disorder described how she felt during depressive episodes:

> When I think of depression I think of a big, giant, gray cloudy sky. Not even a cloud, but just the entire sky above me is just gray and gloomy and you don't want to do anything, you don't want to get out of bed, you have a lack of motivation. What else…yeah, you don't really want to talk to people, you just want to lay there and do nothing. Or even if you want to have the energy ... even if you want to do something, you don't have the energy to do it because nothing sounds appealing to you at the time. And that's what I felt like doing when I was lying in bed. I was like, 'I wish this bed could just suck me down. Just like drop me forever.

Similarly, Brielle, a 29-year-old African American therapist with a history of mental health struggles talked about her experiences with depression and how they may not mirror other people's ideas about depression:

> I think people are often like, "I don't know if I'm depressed." And I think it's because they're trying to connect to someone else's definition. For me, I describe it as walking through mud. Everything feels slow. Time feels slow, everything takes energy. And sleep will never be refreshing. It's just like walking through quicksand. General sadness, not wanting to hang out with people.

On the other hand, White American participants were more likely than African American women to discuss the anxiety and ruminating negative thoughts that accompanied depression. Lily, 22-year-old White American recent college graduate discussed how depression and anxiety is often comorbid and how they interact to worsen depression and anxiety.

> I think that depression, anxiety go together pretty quickly. Depending on the situation, depending on the person can have a snowball effect sometimes and make the issue seem larger and larger. They get more anxious about it, which makes them more upset about it, which makes them more anxious.

Emma, a 27-year-old White American middle-class woman, echoed Lily's thoughts about the comingling of depression and anxiety and explains how depression can lead to fear and anxiety that keeps people in a perpetual depressed state.

> To me, I think it means sadness and sometimes not even knowing why and just a general, I guess a general malaise about your day, you know? Things that should be happy sometimes have a little more of a twinge to them or like if you are having a really good day, it's like when is the other shoe gonna drop? When is the bad thing gonna happen? So, it's that constant, I guess like, and some of it's hard to separate out the anxiety too, but like that constant fear that something bad's gonna happen or it's gonna tumble back down, I guess, into a sad spot. I guess just never really having, or not often having those moments of genuine happiness or prolonged periods. I guess it's not always sad rain cloud but it's always just kind of like a little rain cloud on your shoulder or something, you know?

All the participants viewed changes in behavior as signs of depression, but the kinds of behaviors they believed indicated depression differed by race. While most participants felt fatigue and feeling sick as symptoms of depression, twice as many African American

participants than White American believed irritability and mood unpredictability were signs of depression. Sasha, a 27-year-old African American undergraduate thought depression may take form in ways that are not often associated with depression like anger:

> I think depression takes a lot of forms that we don't think about, like anger. A lot of people will see someone who's very angry or who lashes out at their loved ones or who's argumentative or combative in the workplace. They'll be like, "Why is this guy such a jerk?" He probably isn't. He's just depressed, and this is how it's manifesting. They need some help, so that's what I think of when I think about depression.

Jasmine, a 31-year-old African American lower-middle class talked about her mother's experiences with depression when she was younger. When asked to describe her mother's behavior during depressive episodes, she replied:

> …It's kind of hard 'cause I was younger, but it was ... it was probably for my mom was more so irritability, 'cause my mom is pretty even keel. She doesn't ... not a lot riles her up or gets her ... But she was like really ... things would snap. She'd get angry really quick or things that were small, she'd be really upset about…. And my mom didn't really ... she wasn't like a crier in front of me or anything like that. So, it wasn't anything like that, it was more so the irritability.

More African American than White American women also spoke about loss of interest in things, social withdrawal, and feeling unengaged as essential signs of depression. Jasmine then talked about her own experiences with depression because although she does not a formal diagnosis of depression, she has been depressed as several points in her life:

> You can't ... it's hard for you to function through things. It's hard for you to process things. Maybe you know things you really enjoy, you don't necessarily want to do anymore, or it's just like ... you just can't get into a groove or things that maybe that's good for you, you can't do.

Unlike the behaviors described by most African American women, twice as many White American participants discussed unexpected and uncontrollable crying as indicators of depression. Sophia, a 29-year-old White American therapist with a diagnosed mental disorder described an incident where she had a crying fit at work which made her realize that she was

depressed. After that episode, she is more aware and careful about where she cries when depressed:

> I remember one time in particular a few years ago, I was at work in our team room and I couldn't stop crying and I was trying. I was like…that was my signal that this is really because I couldn't control it at work and it was like, f***, what it my director walks in. Now, I make sure not to do that work but I am much less conscious about crying when I am in a position where I feel like I'm being assessed by other people. So, like, at the grocery store, I can just let myself go or let myself be and it was fine. Like I've been in situations before where I'm like in public and I just start crying and thankfully I might have some sunglasses or whatever, but I don't really care if I'm in line at Chipotle and you know, someone gives me a tissue. I'm like, "Okay thanks, I'm fine." You know? Versus like at work or something, that would be a lot different. Yeah. I may still cry a lot but in more appropriate places.

About 1/3 of African American and White American participants talked about functional or hidden depression as types of depression that can make it difficult to know if someone is struggling or depressed. There are people who may not exhibit any outward symptoms and continue to be productive in their professional and personal lives even if they are depressed. Patra, a 24-year-old African American food service worker talked about how people can hide depression and still work because they need to work to survive:

> Some people hide it better than others…They still went to work because we have to. At the end of the day, if I don't do nothing else I know I have to go to work because I know I need money to survive. So, it would be ridiculous for me not to go to work because of how I feel.

However, Ivy, a thirty-four-year-old African American social worker who was diagnosed with a mental disorder as a teenager talked about the risks associated with functional depression:

> I think it depends on how well they're able to handle it, because the thing is, you can be functionally depressed, and then you eventually hit rock bottom, because you're not telling people what's going on. You're not seeking treatment, and you're not talking about it. Sometimes, that can even be worse than when people know what's going on.

Communication about mental health

Groups most comfortable talking about mental health

Participants discussed the groups of people they believed were the most comfortable and uncomfortable talking about mental health. Twice as many White American participants felt that people with high socioeconomic status were comfortable talking about mental health as African American women. More White American participants also believed that women and LGBTQ individuals were comfortable and more likely to discuss mental health with their friends. In contrast, twice as many African American women than White American women felt that White people were more comfortable talking about mental health than other racial/ethnic groups. About one-fifth of African American and White American women felt that people under 40 years old were more comfortable talking about mental health than older generations.

Groups most uncomfortable talking about mental health

Interestingly, most African American and White American participants felt that to some extent, everyone is uncomfortable talking about mental health but believed some groups may be more uncomfortable talking about it than others. Three times as many White American women believed that men are uncomfortable talking about mental health as African American women. Some White American participants also mentioned that some cultures may be uncomfortable talking about mental health problems but could not name specific cultures. Most African American women believed that racial/ethnic minorities, especially African Americans, and immigrants are uncomfortable talking about mental health. About one-quarter of African American and White American women felt older people are uncomfortable talking about mental health because mental health is now a relatively more accepted and discussed subject than in previous decades.

Talking about mental health and illness with family

There were some racial similarities and differences in whether participants talked with their families growing about mental health and the messages they received from them. Four White American women talked about mental health with their family growing up and continue to talk to them about it as adults compared with only one African American woman. Anne, a 32-year-old White American PhD student discussed how her father talked about depression while she was growing up:

> My dad has dealt with depression in his life, mostly before me, and never in a life altering way. But certainly, has the vocabulary and sort of the knowledge and feels comfortable talking about it. It always felt like it was something like high cholesterol or hypertension or arthritis, any other number of bodily ailments. That it was something that anyone could experience that didn't in any way reflect on your character.

In contrast, most African American women never talked about mental health with family growing up or as an adult compared with eight White American women. Marissa, a 44-year-old African American healthcare worker talked about how mental health was never discussed in her household growing up because mental health problems never affected her family:

> We never really talked about it because we never had to experience it. We see things on TV, but if it never hits home, you never really ... I guess you should, but you never really discuss it. I think sometimes when you don't really deal with things in your immediate family or in your family, you don't really talk about it. It's not nothing bad, it's just that's not a topic that come up unless you're going to school with someone and they're like, okay, what's really going on with so-and-so.

Grace, a 50-year-old African American high school teacher with a history of depression and anxiety discussed how mental health and illness were not openly talked about in her family. Although her mother suspected she was struggling with mental health issues and tried to help her, mental health was still not discussed or explained in the household:

> It was never talked about. Never, never, never, never, never, never, never, never. There was one moment in high school, I don't even know how I ended up there. I was a really quiet kid, hung out with my friends. I would say it was fairly normal, I do know I was in my head a lot, so I did a lot of writing, I did a lot of listening to

> music, that was one of my escapes. My mother never discussed this with me, but suddenly one day, there was a juvenile care place and still to this day, I still don't even know what this place was exactly, but I was taken there twice to talk to, I guess he was a therapist, this was not explained to me. My mom didn't talk to me about what she was thinking I might have been going through or about my time there, nothing.

Similarly, Monica, 35-year-old African American mother of three has struggled with mental disorders since she was a teenager. She talked about how her family approached her struggles with mental health and how it made her feel isolated and ignored:

> It was really, honestly kind of like, "There's something wrong with you, and we need to take you to the doctor. That's not something that's wrong with us." They just took me to the doctors, and whatever the doctor said or suggested was what I should be doing. Without taking into account, maybe how I was feeling or what I was thinking about it. We never really talked about any of it.

About one-third of African American and White American women mentioned that while mental health was not discussed in their families growing up, they now talk about it with them as adults. The primary reason for the shift in talking with family about mental health for African American women was a personal experience with depression or learning a family struggled with mental health problems. It seems that having personal experiences with depression or other mental disorders encourages women, especially African American women, to talk more openly about mental health with their families. A few White American women also attributed the shift to getting older and feeling more comfortable about yourself. Jasmine, a African American participant mentioned how her mother and sister's experiences with depression made them more comfortable talking about mental health in the family and pushed her to learn more about it:

> I can't say growing up that anyone talked about that kind of stuff, maybe when I hit teenage years because that was more of the time when maybe my mom was dealing with it, my sister was dealing with it a little bit more. Even me, I've gone through periods of depression. Not clinically diagnosed, but had tragic events occurring. You just kind of hit a low. My mom saying that she was depressed and was taking medicine for it. My sister saying that she was depressed and taking medicine for it. It wasn't necessarily the sit-down discussion that we had, but I don't

> really know what to attribute that to. I just think to me, I think when you're around people who are dealing with something, you're more apt to get more knowledge about it or try and figure out more, or do some research because you want to have an understanding, "Okay, well how do I deal with this person? How is this person feeling?" Try to get an understanding of what they're going through.

Messages from family about mental health and illness

No Messages

About half of White American women and a third of African American women felt they received no messages about mental health while growing up. Abby, a 20-year White American undergraduate talked about how mental health was not on her radar growing up:

> I think, just the way my family is. We are really close, but I feel like it's ... people don't ... my family doesn't ask about things that aren't brought up. So, if I weren't to bring something up about mental illness, I don't think my parents would sit down and have a talk with me, or something like that. Also, being from a small town and going to a small high school, I think that it's not a good atmosphere for communicating mental health problems. We didn't have a mental health worker or counselor or anything like that, or anything promoting mental health, when I was there.

Hannah, a 38-year-old highly educated White American mother, discussed how mental health was never talked about in her household while growing up. She realized during our interview that she has never talked about mental health or struggles with her teenage daughter and may be repeating the same pattern of silence on the subject that she learned growing up. Hannah has sought and participated in therapy several times in her life and believes therapy can be an important tool in maintaining mental health, but it never occurred to her to talk to her daughter about it:

> I think what I've passed on is that I just don't talk about it because it's ... it wasn't ever talked about with me, growing up, so, I don't ... I've never said anything to my daughter about it. And it's interesting because I ... While I'm talking to you, I'm thinking of these things 'cause I'm like, "I care about my mental health and I'm going to therapy to do that, but I've never said anything to my own child about it."

Push through and Get over it

For participants who received messages about mental health in childhood and adolescence, slightly more White American women felt the message was to “push through” and get over what bothers you than African American women. Luna, a 31-year-old upper-class White American participant with multiple mental disorders felt comfortable talking about her mental health with her family growing up. However, she also thought her family tried to toughen her up during her youth and adulthood to help her manage her mental health:

> My mom told me that I needed to toughen up a lot. I don't have very thick skin, so I get it. You know, I didn't feel uncomfortable about it, so. I think my dad ... and this is actually kind of how my husband is too. My dad sort of did feel like you can ... particular things, the idea that this doesn't need to affect you so much, and you need to learn to deal with this. My husband's a lot like that too.

Similarly, Emma felt that her mother’s priority on being a strong role model led to her encouraging her children to push through any negative or sad feelings. Her mother focused on being productive and strong, and that message still impacts Emma as an adult:

> I've always enjoyed that she instilled a strong female role model, and that I can do anything. But I think it didn't take into account that it's okay to be not okay sometimes, and that sometimes it's not always worth it to work through all that to go to work or go to school or whatever, and you need those breaks or those mental health days. Now, I have a hard time taking those or doing that without feeling guilty that I should be doing something or that that's an okay use of my time.

Mental illness is shameful and harmful

However, more African American than White American participants felt the main messages from their families were that mental illness is shameful and harmful.

Sierra, a 31-year-old African American participant with a diagnosed mental disorder said that mental health was rarely discussed in her family unless it was in a negative way:

> Mental health was never talked about at all. The only thing you would hear was, "Oh, that person's crazy." Or if it's something schizophrenia, you might hear something about that, but for me that was mostly out of movies. Personally, family-wise, no, it never came up as a topic. It was just like, okay, stop crying or pull yourself together, like that was pretty much all you got from that, never, like, "Why?" or, "Let's go see somebody, maybe there's something else going on." I learned that it’s generally something people don't talk about because they're

> ashamed, I would imagine. I guess you don't want to go around saying, "Well, somebody in my family has a mental illness," because they thought it was something negative.

Chloe, a 31-year-old White American participant with a history of depression and anxiety talked about the impact her sister's mental disorders had on her family growing up. She resented her sister's mental health struggles, and those experiences impacted the way she viewed mental illness:

> The messages I got were that it's serious. That it requires attention, a lot of attention. It was definitely an inconvenience all the time. It embarrassed me a lot. I mean where I grew up, it's considered an underserved area for mental health resources. My family didn't have a lot of disposable income, so a lot of the income my parents had was diverted to that and trying to treat and seeing it not get better. A lot of resentment for the system, because it just seemed like she was getting treatment for it for a long time, but nothing was getting better, and in fact it was getting worse. The way it divided my parents, and I resented my parents because they couldn't be on the same page. It was just horrible.

It's okay to need help

A minority of African American and White American participants believed that their families provided messages of support and let them know it was okay to need help or talk about their struggles.

Talking about mental health and illness with friends

There were very few racial differences in whether participants communicated with their friends growing up or as adults about mental health and illness. The same minority of African American and White American participants did not talk about mental health with their friends growing up or as adults. Four White American women have talked about mental health with their friends throughout childhood and adulthood compared with three African American women.

Most African American and White American women said that while they did not talk with friends about mental health issues in their youth, they speak with them about mental health as adults. Again, most African American women felt that personal experience and experiencing

adversity as adults encouraged them to be more open with friends about mental health struggles. In contrast, White American women spoke about going to college and experiencing more stress as adults led to them speaking more openly with friends about their mental health.

Messages from friends about mental health and illness

No messages

More White American women felt they had no messages about mental illness from friends growing up, which is similar to the findings that they did not receive messages from family growing up.. Olivia, a 46-year old middle-class White American mother of two with a history of depression and anxiety talked about how when tragic events occurred she and her friends never thought about those actions as consequences of mental health problems growing up:

> Like I said, the people that had committed suicide it was like "gosh, they're so crazy. Why would they do that?" It wasn't, geez. I wonder what happened in his life. Or how sad this, this or this. We never talked about what they may have been experiencing or how we felt about it. We never talked about, like, how we felt in our own lives or I guess our own mental health. I don't think I received any messages from my friends about mental health at all.

Self-Care and Compassion

More African American women felt their friends growing up provided messages of compassion because they felt people were doing the best they could. Self-care was also emphasized among friends who seemed to be more accepting of differences than members of their families. Monica, a African American participant talked about her experiences telling friends about her diagnosed mental disorders as a teenager:

> I think they were always more accepting. So, the children, or kids, or people I was friends with were always accepting, or they just ... that was just a part of who you were. They didn't cause you any trouble about having that, it was really just adults who kind of put a label or made you feel like, "Well there's something wrong with you, and maybe you shouldn't do this because last time you did that it didn't work out." Kind of constantly reminding you that you're gonna have a problem.

Negative Messages

A comparable number, about one-third, of participants across race received negative messages about mental health issues. Their friends growing up would only talk about others with mental health problems in a gossipy or secretive way and believed that those individuals were crazy or abnormal. Taylor, a 47-year-old lower-middle class African American woman recalled how her friends would keep their distance from and negatively talk about a neighbor they suspected had a mental illness:

> Leave crazy Eddie alone, he won't bother you. He's not bothering anybody. That was about the extent of it. I guess the message was that it was bad. You know? Because I don't want to be crazy Eddie. And I don't want to be associated with crazy Eddie, or I don't want people to think that I'm like crazy Eddie.

A few White American participants talked about how mental illness was viewed as shocking and confusing to them, but it was considered as something that personally affected them. In some ways, there was an "othering" of people with mental health problems. Chloe, a White American participant talked about how mental health was talked about in an unproductive and unconstructive way, and that some of their conversations may have led to more stigma and secrecy:

> Growing up, it wasn't really talked about. If it was talked about, it was about somebody else. More of a gossipy way than it was, "Let's talk about this in an intellectual way or a supportive way." It was more related to that. I think that also just led to keeping it more secret.

Racial differences in help-seeking for depression

Most African American and White American participants believed that people can overcome depression although the strategies to overcome it differed by race. All of the participants believed that the best depression treatment depended on and varied by patient. However, the way participants felt people overcome depression impacted whether they

considered therapy, medication, faith, or confiding in someone close as acceptable and preferred treatment for depression.

Acceptable treatment for depression

Therapy as the most accepted form of treatment

Most African American and White American participants, approximately 80%, believed that therapy is an acceptable form of treatment although some considered therapy as an essential and early part of the process while others felt it should be combined with lifestyle changes to be effective. Emma, a White American participant responded when asked about depression treatment:

> I think therapy first. Sometimes it does help to eat better, but I don't know. I think that if you just exercise and do yoga and eat better, yeah, you might feel a little bit better, but it's not just gonna make these underlying things go away. You exercised, that's awesome, but I think there's still that ... At least I personally feel like those issues will still be there. There are some natural substances and remedies and stuff like that, that people have started using. I think that's also an alternative, if you don't want to take traditional big pharma medications, or things like that. I find just the talking and the therapy, I think, to be the most helpful. Because it helps you be reflective, and introspective, which I think is what we lack a lot as a culture.

Medication as an effective form of treatment

Surprisingly, a comparable majority of African American and White American participants viewed medication as an effective treatment for depression although more African American women felt that medication was only effective when combined with lifestyle changes and therapy. Naomi, a 34-year-old African American PhD student with a mental disorder talked about her treatment regimen:

> Yeah, I consider it talk therapy, and medication is also really helpful, especially if you ... Yeah, I take medication to sleep, and sleep is so important. Yeah, other things that affect your mood, but those two things I consider therapy, I consider treatment, yeah. Medication and therapy together.

Sasha, an African American participant, discussed the importance of medication and lifestyle changes for mental health treatment:

> You can't expect the medication to work well if your diet is crap or if you're not sleeping enough, like it's not a pill from Narnia. You need to give it something to work with. You can't expect to be able to feel better just with medication, you need all of it.

While most participants considered medication a form of treatment, almost half of them only viewed medication as a last resort or a preferred treatment for individuals with severe depression. Jane, a 34-year-old White American healthcare worker with a history of depression thought medication is necessary for some people but not everyone:

> I do feel like some people don't need medication. If it's kind of situational there's a way often to kind of work through and restructure thoughts cognitively. But I do think medication has a role if there's a significant biochemical change or if talk therapy isn't doing enough. Or if it's so bad the person's not even in a good place to begin, some kind of therapy then medication might help to kind of make the person more receptive to that.

Grace, an African American participant who is active in therapy discussed her experience and feelings about medication:

> I have always resisted medication. I tried it once, I couldn't even tell you what it was, it just was not ... it was one of the drugs that you have to wait for a level to get to a certain point and then things were supposed to happen and I don't know if it was more my impatience or I've never wanted to be chronically taking something.

Faith and God as a treatment preference

In addition to traditional forms of mental health treatment like medication and therapy, more than one-third of African American women viewed faith as a form of help for depression even if it is combined with therapy. Breanna, an African American participant, felt faith and exercise helped her when she went through a brief depression:

> If God comes first to you, yeah, go to church. I hadn't been to church in eight years and when I was going through my depression spiel I went to church and I walked out of there feeling like a new woman. Church helped me, having a good support group helped me. But when I established my connection with God and the

> spirituality aspect and my connection with my friends, then it was easier for me to get the strength to go and work out again where I felt better.

However, Taylor, another African American participant, thought faith and church were not enough to treat depression, counseling was also necessary:

> Well, I would suggest Jesus and professional help at the same time. So, going to church is good but also talking to a therapist or a counselor. A church counselor can work but only if they have some kind of professional training.

Alyssa, a 28-year-old African American participant with a history of depression, also talked about the importance of prayer and medical intervention or mental health treatment:

> Church and prayer work. Church, prayer works. Combine prayer, combine God, prayer and the hospital. Medical help. Take care of your body. Medical treatment. The combination will work.

Lifestyle changes and confiding in trusted friends and family as treatment

A comparable minority of participants also viewed lifestyle changes, like diet and exercise, and talking to close friends or family as effective depression treatment. Claire, a 22-year-old White American participant with a history of mental health problems thought medication can help some people but diet and exercise can be helpful for others:

> Yeah, diet and exercising definitely help. Everyone's different with it, there's like no catchall. It's not like when you have a headache, you can take a Tylenol. Unfortunately, you kind of have to shop around a little bit. Medication and therapy are definitely things that you can do to help, but exercise has been a big help for a lot of people with depression. Eating right, like having a good diet has been a big help. But there's also been things like moving to a quieter town has helped people greatly. Like some people who have a very bad seasonal depression, like moving to Florida has basically everything that they needed. So, it does vary person to person, but there's definitely a full bunch of options, like things that could help treat someone.

Hesitating to seek help for depression

More White American participants felt they would hesitate to take their own advice about pursuing therapy because they would either be in denial about their depressive symptoms or would want to handle things on their own. Claire continued to talk about how she sometimes has

to force herself to pursue or go to therapy even though she knows it has been helpful for managing her mental health condition:

> Yeah, I've kind of had to make myself a bit. I've definitely been the kind of person who advise something to someone and then went home as a hypocrite and didn't invoke that advice. It is definitely hard to do when it's you. Like you can advise that a lot of times to people, be like you have to keep at it but like when you're actually doing it, it's a lot harder. It's a different story

A comparable minority of African American and White American participants thought they would likely hesitate to seek therapy if they were struggling because they would need a push from family or friends if they were too depressed or scared to do it on their own. Only one African American woman said she would hesitate to pursue therapy because of past bad experiences with therapists.

Barriers to help-seeking and mental health treatment

The participants identified some of the barriers to help-seeking including cost and insurance limitations, lack of knowledge and access to mental health resources, stigma and fear of judgment from others, and a lack of personal and professional support. Twelve African American women and one White American woman thought stigma and judgment was the main barrier to help-seeking because they felt people may view those with depression, in therapy, or on medication negatively. A comparable majority of African American and White American participants also thought the cost of mental health treatment and insurance limitations was another significant barrier for those who want and need treatment. A third barrier that a large proportion of participants mentioned was the lack of personal and professional support in which their personal, relationship, or work responsibilities made it difficult to have time to seek therapy or feel comfortable seeking treatment.

Another barrier that more African American women mentioned than White American women was a lack of knowledge and access to mental health and counseling resources. While most African American and White American women felt they knew where to go for help for depression, the resources they were aware of and comfortable with differed by race. About half of the participants, more White American than African American, felt the internet and applications (apps) were the most useful sources for finding help. More White American women also knew community, university, and employer resources than African American women. Some African American women knew about university resources for depression but very few knew about community or employer resources that could provide mental health services. Other barriers mentioned were the depression itself making it impossible to seek help or believe that treatment will help as well as being in denial and unready for treatment. While cost and insurance limitations are easily understood as a barrier to health care, it is important to explore cultural barriers such as cultural mistrust, and to understand what stigma and personal and professional expectations mean to participants since they were mentioned as other key barriers.

Cultural Mistrust

Another prominent barrier for help-seeking among African American participants was cultural mistrust. One-fourth of African American women discussed a lack of trust in professionals and wanting a therapist of the same race and gender with similar experiences as explanations for why they are hesitant to try therapy. Only one White American woman discussed a lack of trust in mental health professionals as a barrier to mental health treatment because she would prefer a LGBTQ counselor who could relate to her experiences. Layla, a 21-year-old African American college student expressed the importance of having a therapist of the

same race/ethnicity and how she was only open to talking to me about mental health because of race/ethnicity:

> Even now, I want to get a therapist but I want my therapist to be African American just so you can relate to what I'm trying to say to you. For somebody else…someone that's Caucasian or some different ethnicity is not going to understand how I'm talking to you about racism. They could sit there and say, "Oh, well, I've seen it." So, I need somebody that's relatable to me and that's actually going to understand and help and talk to me, not just sit down and listen and nod their head and act like they care but I really know that they don't. Talking about it, yeah. If you weren't African American, I wouldn't even be saying this 'cause I wouldn't feel comfortable. I feel like that whoever it is would feel off-kilter or feel like "oh well, I don't think that's true."

Strength and Depression

The "strong black woman" mandate has been prominent in mental health research because past literature suggests that African American women view those with depression as weak which prevents some from seeking help. When discussing whether someone can be viewed as strong and capable if they have a mental illness like depression, most African American and White American participants felt that people can be viewed as both strong and capable while living with a mental illness. In fact, a few more African American women than White American women believed that people should be viewed as stronger if they are managing depression and still maintaining a high level of productivity. Tatianna, a 30-year-old African American participant with a diagnosed mental disorder stated:

> I feel like you're more capable and stronger than a normal person who doesn't have a mental illness because it takes a lot to fight and overcome and to just even recognize and be motivated to get that help. I think that makes you way stronger and more mature. You're ready to take on anything else that you can.

Some White American participants felt that even if someone was strong and productive while managing a mental illness, others may not view them that way because of stereotypes around depression

Hannah, a White American participant said:

> I think you can [be strong], but I don't think society views you as you can. I think there's still that stigma out there that if you've been labeled with a mental illness, then mentally you're less than the people around you.

Only one African American and White American woman felt that someone cannot be strong and capable with depression because it overwhelms people and makes it impossible to be stable enough to be productive. However, when discussing the stigma of depression, more African American women felt that regardless of their personal feelings about depression, most people in society viewed those with depression as weak and unable to handle things on their own.

Stigma

Most African American and White American participants believed that depression is still stigmatized but the type of stigma varied by race. African American respondents were more likely to believe there is universal and broad stigma against individuals with depression than White American women. Some White American participants felt that stigma only existed among certain groups of people or in some contexts such as the workplace, while only one African American woman agreed. White American women were also more likely to believe the stigma is better than it used to be in past and were hopeful that it would continue to improve in future generations.

The types of stigma discussed were professional stigma, dismissal, weakness, crazy or violence, and contagion.

Professional Stigma

More White American women were concerned about professional stigma and believed that employers and colleagues would view those with depression as inefficient, unreliable, and unable to handle important tasks. Emma, a White American participant, talked about some of potential work consequences of depressive episodes that decrease productivity:

> When you don't get out of bed and you can't go to work and your supervisor's calling you, then you're not being that productive member of society like I said before. I think there's still a lot of stigma around that. So, we don't have compassion for that, we don't have understanding. There are a lot of people who could lose their job, like the people who usually need it the most, could be at risk if they miss a shift or are working multiple jobs or something, and don't have time for that. But mental illness doesn't always care if you have time for that.

Jasmine, an African American participant who recently told her employer that she has struggled, feared that her boss and colleagues would view her as less capable because of her admission:

> I know there's still a pocket of people who will see a mental illness as a weakness, especially if it makes you not as efficient at work and a coworker's looking at you. It was only this year that I told my boss in an evaluation, "I've been through this, here is why. I know and I am aware that this piece of my job, this is what I'm struggling with over here, and I see it over here. Here is what I plan to do to overcome this so that this is better." Now, I definitely have the thought, "I hope he doesn't think, or I hope ... what can I do to completely eradicate whatever he might think about it", with absolutely no evidence that he thinks any way or another about it at all. I am still now anxious about what I can do now…I don't want to look crazy at the meeting or at the event. Should I say anything? Could I make sure my tone is ... now I'm like ... on one side always nervous, and on the other side I know that everybody has got something, not just me.

Dismissal

White American women also felt that people were dismissive of those with depression and that generally many people do not understand or take depression seriously, therefore any experiences with depression are viewed as trivial. Hailey, a 32-year-old middle-class White American participant discussed how stigma still exists because people have difficulty accepting depression:

> I think people still have a hard time with admitting that, and people still have a hard time with accepting that people can have things like that, because it's not a physical thing you can see. It's hard for people to explain it, and stuff like that. A lot of times, people can't explain what the problem is, so people don't take it seriously. If others can't really see a broken foot or something, it's hard for them to understand what it is that person's going through.

Weakness

Similarly, African American participants thought individuals with depression were viewed as weak and unable to handle adversity on their own. Layla, an African American participant currently struggling with depression, resented that people thought depression made others weak because she felt you have to be strong to endure depression and everyone has a breaking point; the breaking point was not weakness but human:

> I feel like people see if you're depressed, then they think that you're like weak, and I don't see it that way, I feel like you've been strong this whole time, you're just at a breaking point and you just need help to get back up. Just like any other human, if you have an issue, you need help. Or if you're going through something you need help, because you shouldn't go through it by yourself. So, whoever says, "You know you're depressed, you're weak, you're weak minded", that's not it. They've been through a lot; they've been strong this whole time they just need a break. So besides sitting there judging them, why don't you help them or understand where they're coming from.

Crazy, Violent, and Contagious

More African American than White American participants felt that those with depression are viewed as crazy or violent, and that people feared that depression is contagious. Monica, an African American participant, talked about the fear associated with depression:

> I think when somebody's considered to have depression, I feel like people think that they're at higher risk to do like, negative things. Or like, go crazy, you know, what not. But I think that that's not as bad as it used to be. I think to other people. I think that's usually what the general worry is, is somebody with mental illness is gonna do something to someone. And then when things happen in the news, like school shootings and kids were depressed, it's always, "Well they were depressed and this and that. They had mental illness and that's why this happened, and yada yada yada." I don't know if it's always just that, but they just kind of label it as that person had mental illness and now all these people are dead because of them. So, I feel like the general worry is always that something's gonna happen to somebody else, not the person themselves, usually.

No longer stigma

Only two African American and two White American women believed that there is no longer any stigma associated with depression, and interestingly, all four women had a diagnosed mental disorder. From their personal experience, they believed that people are talking about

depression and mental illness more, and that people want to be helpful to anyone who is. Alicia, a 30-year-old African American healthcare worker and community college student talked about the importance of awareness is eliminating stigma:

> I think because they're being more aware of it, more and more people are talking about it, I don't think that people are going to look at me differently anymore because of depression. I don't. 'Cause they're actually really putting it out there as people are really depressed. These are the symptoms. People are really actually dealing with this. This can be an issue or a problem. And depression can lead to suicide. So, it's kind of like you need to be aware of this and talk to people about it, that you know are actually dealing with the situation and try to be aware. And try to be get it out there. So, I don't think that people are being judged anymore. 'Cause now they're talking about it more.

How participants felt their family and friends view them if they were diagnosed with a mental illness

There were some racial differences in how participants thought their family would view them if they were diagnosed with a mental illness. About half of African American and White American participants thought their family would not view them differently if they were diagnosed with depression. More African American than White American women believed that their friends would not view them differently if diagnosed with depression. For African American women who felt their friends would view them differently, most thought they would be viewed as fragile and weak. A few African American women and one-third White American women thought they would be viewed as irrational, silly, or dramatic Another third of White American participants thought they would be viewed as weak or damaged.

Sasha, an African American participant talked about how her parents reacted when she told them about a potential ADHD diagnosis and suspected they would react similarly if she was diagnosed with a mental disorder like depression.

> When I told them that I suspected I had ADHD they're like, “Dear God, that makes so much sense. Like we're not mental professionals. Well that explains a lot about you. Get the help that you deserve.” And I feel like I'm really fortunate in that sense,

> despite my parents for some reason not getting the help that they needed, they were not opposed to me getting help out there.

Similarly, Anne, a White American participant thought her family would view a diagnosis as a tool and knowledge to enhance her well-being:

> No, I think everyone would be like, "Oh, okay." It would have a kind of explanatory power in the same way where if I was like, "I am hyperthyroid." or something. Or like, "I got a new glasses prescription." I think the feeling would be like, "Oh, now you have access to a set of tools that will make it easier for you to live.

A comparable number of African American and White American participants thought their families would view them as damaged, weak, and fragile while others feared their family would constantly worry and watch over them if they were depressed. Monica, an African American participant felt that since she was diagnosed with mental disorders as a teen, her parents view her as damaged and limit her even though she is now an adult and in treatment:

> I think I was viewed as broken or damaged. Not as capable, for sure. And I think that "not as capable" thought persists on today. I think it's more damaging to the person individually, like for me it was, when you're younger. Because then you kind of start to take on that feeling of like, "no, I guess I probably shouldn't do that because now I can't do that." Very self-limiting. Yep. It's definitely evolved with my sisters. I don't know if it's evolved as much with my parents. I think that they just automatically assume that because I was depressed that, that means that if something happens I'm gonna be depressed again or that they can't say this or that to me, because that's gonna be a problem for me. They don't give me the chance. They limit me before I even have the chance to make a decision on my own. And then, I think that they're trying to protect me from myself, but in doing so they're just limiting me.

A few White American participants felt their families would consider them pitiful or charity cases if they had a diagnosed mental illness and worried that it would change their relationships. Evelyn, a 45-year-old White American mother stated:

> I don't like feeling like a, this is a terrible word, but like a charity case. "Don't feel bad for me, I'll figure it out, I got this." So, if you're diagnosed with depression or anything I feel like there will be many, many people who out of the goodness of their hearts would want to help and would want to ask how you are doing and just knowing myself, I wouldn't like that. I think they would want to help. I just, I cringe the first thing that comes to mind is "oh poor you, how can I help?" That "Oh poor you" makes me cringe. I don't want you to feel bad for me and I do think if I had diagnosed depression or alcoholism or any of those things, I would feel bad for

> someone and want to help them. So, it's very hypocritical of me to say, but maybe that's why some of these things aren't as public as they could or should be because people don't want, people will feel bad for them or sorry for them.

How beliefs and perceived stigma impact participants' willingness to disclose depression diagnoses

Perceived stigma and feelings about how others would view them impacted how comfortable participants would feel disclosing a depression diagnosis to family, friends, and employers.

Comfortable telling some family and friends

Most participants said they would only comfortable telling some people in their lives about a depression diagnosis but would never feel comfortable telling everyone. About one-fifth of African American and White American women would not tell anyone outside of their closest family and friends. However, more African American women than White American women said they would not feel comfortable telling some immediate family members or any extended family because they would not want to be judged, did not think they would understand, or did not think they could help them. Brielle, an African American participant would hesitate to tell her mother about a diagnosis because she doesn't think she would understand. She also struggles with her complicated feelings about disclosure because as a therapist she understands the importance of disclosure but as an African American woman she understands the potential negative reactions:

> I would be very hesitant to tell people I was diagnosed with depression, but I also know the importance of disclosing it. I don't know if I would do it while I'm actively depressed. I wouldn't want people looking at me differently, but that's also the same if I had cancer or I had a child that had special needs going or whatever. I'm weird about people judging me more. Well, I'm not weird. I'm a black woman. So yeah, that's that. I would be more comfortable like, "Hey, this used to happen to me." Just show like, "Oh, you can get through it," or "it gets better." My mother wouldn't understand it. I would try to explain it to her, but most likely I would be dealing with it on my own with my partner. I would always disguise it still, probably, like, "Oh, I'm having ... I don't know, there's just a dip in my life right now." I probably wouldn't use the word depression. I would use like, "My mood's

> low," and if I say I need some space for a little bit, that's just one of those ... whatever. I try to, not downplay it- no, I try to downplay it, which is problematic.

Unwilling to tell anyone in professional environment or context

A quarter of African American and White American participants would never tell an employer or academic advisor about a depression diagnosis. Hailey, a White American participant thought she would not disclose a mental health condition to her employer out of concern that everything she would do would be associated with the mental disorder:

> I probably wouldn't. Depending on the job, because then I feel, depending on whoever my boss or manager was, depending on my mood or what I was doing that day, they could be like, "Oh, it must be because of blah, blah." I'm sure legally they couldn't do that, but some people, "Oh, it must be because of whatever." They would find a way to try and correlate and blame that. So, I think that would be something that they wouldn't necessarily need to know.

Comfortable telling anyone

Very few African American and White American women thought they would be comfortable telling anyone about a depression diagnosis. White American women were more likely to be tell others if they thought someone could help them understand their condition, while African American women were more likely to tell others if they thought it could help someone else.

Uncomfortable telling anyone

A comparable low number of participants across race said they would not feel comfortable telling anyone about a diagnosis, although some said they would wait to tell someone until they were better and managed it on their own.

Dual role of media about awareness, stigma, and help-seeking for depression

Targeted media campaigns about mental health and depression has helped decrease the stigma of mental illness for some participants while increasing fear of mental illness among other participants. Most participants, more African American than White American, have noticed an

increase in campaigns and conversation about depression. More than half of the women felt they learned something from the campaigns, while a few African American women and two White American women felt the campaigns taught them nothing about mental health. Most of the participants viewed campaigns on social media or storylines on popular television shows.

Raising awareness

Almost half of African American and White American women believed the main messages from the mental health campaigns were about raising awareness about depression, to help people recognize the signs of depression, and to let people know that they are not alone if they are depressed or distressed. Patra, an African American participant talked about a commercial she saw raising awareness about depression that also encouraged people to understand that everyone has struggles:

> I think I saw basketball commercial because I was watching the game and they said everybody has a problem. Everybody has problems and they do you. I think they were saying talk about it. A lot of people go through stress and depression and all that stuff and it's better to talk about it with somebody, to connect with somebody, that's better than just being by yourself. It might be helpful for people because they ... A lot of people look up to the basketball players and celebrities, the singers and rappers and stuff… maybe for a man to see another man that he liked watching play basketball, to say everybody has problems. It's not just you, talk about it. It might help.

Similarly, Emery, a 23-year-old White American joint advanced degree student student with a diagnosed mental disorder talked about the media messages about depression and how they have helped gain more confidence with her mental health condition:

> I feel like the media messages are mostly about how common it is. I guess the media is more like, this many people have depression and things like that. I think it helps people feel more confident. It probably has helped me feel more confident. I guess I don't even think of myself as having a mental illness, even though I guess that's what you would call it. So, I would hope that it helps other people. I guess I haven't thought about it in as much depth before, but I hope that's what it would do for other people, too.

Seek help and support

More African American women than White American thought the main messages from campaign were encouraging people to talk about depression and to reach out if they're struggling or feeling alone. Naomi, an African American participant talked about a therapy storyline from a popular television geared toward African American women:

> Yeah, like, there are more media portrayals that I think are positive, like Insecure. The One of the main characters…, yeah, Issa's friend is in therapy with a black female therapist, I think. The show…shows the kinds of conversations they have. That's a really positive image. I think they're trying to show that as a support system for these women. It's portrayed as, like, a sign of growth or positive character development, and it's not like the characters do exactly what their therapists say, but you could see, they're taking some of those things to heart.

Mia, a 20-year-old African American college student talked about how social media campaigns encourage people to talk about their mental health and seek help:

> Seek help. It's okay to seek help. It's okay to talk to someone, because there's a stigma that mental health issues are bad, and that they can't be fixed and there's something physically, mentally, biology, like, something is wrong with you, you know? I really feel like the push right now is to really, like I said earlier, just make people more comfortable with talking and let people know it's okay to have something going on. You don't have to be the super person that never has anything wrong with them or isn't going through anything or if they are going through anything, they gotta be strong enough to handle it and not feel like they can't sometimes. So I feel like that's really like, they're trying to really, really make people okay with talking about it cause if they talk about it, then they're more likely to get help and more likely to move through what they're going through than taking the other route.

Reach out and help someone you think is struggling

African American women also talked about targeted social media campaigns and few television shows that are geared toward African Americans, and that the main messages of those shows and campaigns are to reach out and help if you think someone is having a difficult time. If someone seems strong or unreceptive to help or discussion, you should reach out and encourage them to get help and talk about their mental health. Jasmine, an African American participant said:

> I think social media, the ones that I've seen, have usually been, "Try and help." You know what I mean? If you know somebody who's dealing with this, reach out to them. Or if you see something like this, reach out to them. So, it's been a positive message, a message of like if you see something, say something type thing. Then the ... I think the commercials about depression, I feel like they normalize it, like it's ... So, it's not so much a stigma that's on it.

Breanna, an African American participant talked about a specific social media message that she thought has been effective in reaching African American women like her:

> Yeah I wouldn't say the social media campaigns helped me because I don't like calling them campaigns, but definitely seeing them on my feed a lot more helped me be aware of it. Not even necessarily the campaigns but people saying make sure to check up on your strong friend today, they may seem strong on the outside, but they may not be on the inside, stuff like that. So just seeing those kinds of things pop up on my timeline I was like "oh okay, I get it."

Negative messages in the media

Participants also discussed some of the negative media portrayals and messages about mental illness and depression that may perpetuate stigma and have negative impact on help-seeking. Half of White American women and one-third of African American women discussed the negative and confusing media messages about mental illness.

Mixed-messaging

Twice as many White American respondents as African American felt there is mixed-messaging about depression and mental illness, where mental illness is used as an excuse for crimes or harmful behavior in some cases. Hailey, a White American participant stated:

> Like, any of the school shootings, the first thing they do is try and label whatever the person had or well, we don't know yet or this is what they had or have, or this is what we found out. Sometimes it's not even this is who this person is, or this is their name, but it's this is this person who has blah, blah, blah. They just have to slap a label on. I don't know if I've really learned anything from that except it's almost like not saying they're using it as an excuse, but it's like they have to attach that label to it to make it newsworthy without even explaining to the public what does that even mean in terms of this. So, they blanket statement everyone that has this issue. It's almost like they have to say, "Oh they only did this because they have this." It's almost like they have to attach that word or that label to them. Otherwise, there will be no other reason why they would go out and do that. There has to be a reason, so we're gonna blame it on that, instead of maybe the person just wanted to go out to do that.

Misinformation and one-dimensional label of depression

A comparable number of African American and White American participants believed the other negative messages about depression involves misinformation about mental illness and a one-dimensional label of depression. The media focuses on fixing and sensationalizing mental health problems instead of normalizing them and focusing on maintenance. Luna, a White American participant talked about the potential consequences of a one-dimensional label of depression by the media:

> I think that they make it very cut and dry, that that's ... I think they make it very one dimensional. I think that's a huge problem, like, "This person is depressed." There's a lot of other things there too, so I think they just concentrate on just that one aspect of the person, and I think maybe by shining a spotlight on that, it also ... it might be telling people ... some people might interpret that as, this is what's wrong with this person, and you don't want to be like this person.

DISCUSSION

This study explored whether there are racial differences between African American and White American women about experiences of depression and beliefs about help-seeking and mental health treatment. Several key findings emerged about the meanings of depression, communication about mental health, the role of the media, and help-seeking from the analyses. First, many of the signs and symptoms of depression that African American and White American participants mentioned were consistent with the DSM-V symptomatology of major depressive disorder, except for irritability or mood unpredictability, and anxiety or rumination. African American women were more likely to believe that irritability and unpredictability and social withdrawal were signs of depression, which is consistent with past research. However, White American women often discussed anxiety as symptoms of depression which has not been explored as much in depression literature but is consistent with statistics that find anxiety and depression are often comorbid disorders (Wu & Fang, 2014). An unexpected symptomatology

finding was that a comparable number of African American and White American women mentioned somatization or physical illness as signs of depression, which is not consistent with past research that suggested that somatization affects African Americans more than White American people.

Similarly, the same number of African American and White American women talked about hidden and functional depression as other forms of depression although functional depression has been associated with men and racial/ethnic minorities more than White American women in past research. These findings suggest that while depressive symptoms may be similar across race, African American women are more likely to experience irritability and social withdrawal while White American women may be more likely to report anxiety and crying spells. However, the relatively large proportion of African American and White American women mentioning functional and hidden depression along with symptoms like irritability, anxiety, and some types of somatization that are not always recognized in the DSM-V for depression can prevent health care providers from recognizing depression and helping women across race, but especially for African American women. These potentially unrecognized depressive symptoms may explain some of the continued inconsistent measured rates of depression in African American women.

Second, most participants thought marginalized populations, or anyone can be at-risk for depression, but some groups were uncomfortable talking about mental health. Consistent with the literature, White American women were more likely to think that men are uncomfortable talking about mental health and that women are more likely to discuss their struggles with friends (Watkins, Abelson, & Jefferson, 2013). However, twice as many African American women as White American women felt that White American people were more comfortable

talking about mental health than other racial/ethnic groups. Most African American women felt that immigrants and racial/ethnic minorities, especially African American people, are uncomfortable talking about mental health with others which is consistent with past research (Beauboeuf-Lafontant, 2007). African American women were more likely to believe that African Americans were affected by depression because of external stressors, and many African American and White American women believed that any group of people can be at-risk of depression, which is inconsistent with past literature. Past literature has suggested African Americans are unlikely to think that mental health disorders like depression can impact African Americans (Alang, 2016). However, these results find that African American women may be more open to the idea that African Americans can be as at-risk of depression as other groups of people and open to acknowledging depression that occurs in the African American community.

Third, while most African American and White American women assumed that White people and women were the most comfortable groups talking about mental health, I found that very few participants talked about it with family or friends growing up. While, more White American women talked about mental health with their families as children than African American women, less than a quarter of them talked about which is lower than past research would suggest. However, a large and comparable proportion of women across race talked about their mental health with family and/or friends as adults, which is inconsistent with past research that found African American women are unlikely to talk to their close family and friends about mental health problems or struggles (Beauboeuf-Lafontant, 2007). Interestingly, more White American women than African American women felt they received no messages about mental health and illness from family or friends while growing up. For participants who felt they received messages about mental illness in their youth, African American women felt there were

more negative messages about mental illness from their families when they were growing up, and that the main message was that it was shameful or harmful, which is consistent with past research (Campbell & Mowbray, 2016). Unexpectedly, more White American women felt that the main message their family conveyed was that "you must push through" and "get over what bothers you." This finding was surprising because the literature suggests that pushing through is a message that is more associated with African American women than White American women, but it seems that message may resonate across race.

In contrast to the messages from family, more African American women than White American women felt their friends provided messages of compassion and self-care when they were growing up, which is surprising and somewhat inconsistent with past research (Alang, 2016). Although about one-third of participants across race felt the messages they received from friends about mental health were negative, I expected more African American participants would have received negative or stigmatized messages from friends than White American women based on past research about their experiences and fears about stigma (Alang, 2016; Campbell & Mowbray, 2016). It seems that the messages about mental health from friends were more positive for African American women than the messages they received from their family, and those friendships became a source of support for them in their youth. The findings suggest that African American women are talking about mental health more we would expect and that White American women are talking about mental health less than we would think growing up based on past literature (Campbell & Mowbray, 2016; Carpenter-Song et al., 2010). The messages of support that African American women received from friends, and messages of "pushing through" that White American women received from family can impact how they view

themselves and others if depressed, which can influence their beliefs about depression and whether they seek help from others.

Fourth, while African American and White American women were open to therapy and medication as forms of treatment for depression, there were differences in beliefs about what should be done for treatment to be most effective. Therapy is an acceptable form of treatment among African American and White American women, which is inconsistent with past literature that found African American women are unlikely to find counseling by mental health professionals including therapists as something they would be willing to participate in (Cooper et al., 2003). The findings suggest that African American and White American women have relatively similar feelings about medication because a comparable majority of participants across race viewed medication as an effective treatment for depression. Surprising, both African American and White American participants often viewed medication as a last resort or only an option for individuals with severe mental illness, which is inconsistent with past research that African Americans are usually against antidepressants or any kind of medicine to treatment mental health problems in any circumstance (Cooper et al., 2003). One major race difference regarding beliefs about medication is that more African American women felt medication was only effective when combined with lifestyle changes and/or therapy. It may be that some of the negative meanings and associations that research found African American women had about medication still exists, but African American women have also started to recognize some of the advantages of mental health treatment in addition to other remedies such as diet, exercise, and prayer. In addition to traditional forms of mental health treatment, more than one-third of African American women viewed faith as a form of treatment of depression even if it was in conjunction with therapy. The beliefs of African American women to rely on faith and God to overcome

depression is consistent with past research, but the number of African American women who felt this way was lower than I expected. These findings suggest that while African American women are more religious and likely to use faith to help with health problems than White American women, the extent and number of African American women to rely solely on spirituality has decreased from the numbers past studies suggest, while belief in therapy and medicine has increased in recent years (Beauboeuf-Lafontant, 2007). While African American women still may not subscribe to the biomedical model of mental illness, more may be willing to try mental health treatment especially therapy than past studies found. In fact, more African American women than White American women said they would not hesitate to seek therapy or help from a health professional if they were depressed, which is unexpected since past research found that African American women were often unwilling to accept or seek any kind of mental health treatment even when they acknowledge that it can be helpful (Cooper et al., 2003). White American women, on the other hand, were more likely to feel that they would hesitate to seek therapy if they were depressed because they would be in denial or would want to handle things on their own, which are typically reasons that African American women described in past literature for not seeking professional help. Findings suggest that African American women are more open to mental health treatment especially if they feel they may be depressed than previous work has found. However, while these findings about African American women's beliefs about treatment are informative they do not mean that African American women will seek help at the same rate of White American women nor do they explain the racial disparities in mental health treatment, so more research is needed.

Fifth, there were some racial differences in the barriers to seeking help from friends and family and mental health treatment. A comparable number of African American and White

American women noted cost of treatment and insurance limitations and low personal and professional flexibility were barriers to seeking mental health treatment, which is relatively consistent with past research about barriers (Cooper et al., 2003; Holden & Xanthos, 2009). More African American women discussed a lack of access to and knowledge about mental health resources as a significant barrier to seeking treatment which is consistent with past research that found African Americans have less access to mental health providers and health care generally than White Americans (Holden & Xanthos, 2009). Another barrier that African American women discussed were cultural mistrust of mental health professionals, in which about a quarter of African American women mentioned that they would want a counselor of the same race and gender compared with only one White American woman. This finding is consistent with past research that found that African American women often want to a therapist or doctor who is African American and a woman although usually race is more important than gender for them (Cooper et al., 2003; Nicolaidis et al., 2010). The one White American woman who mentioned that she would want a LGBTQ counselor because of her sexual orientation suggests that cultural mistrust of traditional mental health care may extend beyond race to other historically marginalized groups like LGBTQ individuals. These findings highlight the continued need for a diverse mental health care system among therapists and psychiatrists to help patients feel comfortable and encourage more people to seek help who need it.

Sixth, stigma was the key barrier to seeking mental health treatment across race, but the types of stigma experienced and feared differed between African American and White American participants. While literature often discussed the "strong black woman" mandate as a barrier to acknowledging depression and seeking help, I found that the strength mandate was more complex and less pervasive among the African American women in this study. Most participants

across race believed that someone can be strong and capable with a mental illness, and some African American women viewed managing a mental illness as strength, which is inconsistent with past research (Alang, 2016; Campbell & Mowbray, 2016). It may be that the strength mandate is still important for "black womanhood", but the way strength is conceptualized has changed. While the past literature suggests that pretending to be problem-free and keeping your struggles private were ways that African American women maintained the appearance of strength, it seems that for the African American participants in this study, being honest with yourself and managing mental health problems are markers of strength. While most African American women did hold an internalized strength mandate that stigmatized depression as weakness, many of them felt people in the wider society viewed depression negatively. A comparable majority of African American and White American women believed that stigma still exists about depression, but consistent with past research, more African American women believed there was broad stigma about those with depression than White American women (Campbell & Mowbray, 2016). Surprisingly many White American women worried about professional stigma while only a couple of African American women did, which is inconsistent with past research that African Americans feared larger societal and professional consequences for acknowledging or disclosing mental health problems (Campbell & Mowbray, 2016). It is also important that White American women were more likely to feel like people with depression are dismissed or problems trivialized while African American women were more believe that depressed individuals were viewed as weak by others, crazy, contagious, or violent which can help consequences for how open they are about any mental health troubles they may have.

There were racial differences in who participants felt comfortable disclosing mental health information to and who they feared would judge them. About half of African American

and White American participants did not think their family would view them differently if they were diagnosed with depression, which is consistent with past research especially with African Americans (Carpenter-Song et al., 2010). For those who worried they would be viewed differently, a comparable number of African American and White American women believed they would be seen as weak or damaged which is relatively consisted with past research, but I expected more African American women to express those sentiments than White American women. It was surprising that none of the participants mentioned social distancing or damaging relationships as fears from family because while research has shown that African Americans are less likely to fear social distancing, White Americans often fear and experience social distancing from their families who are unable to view them as anything other than their mental health disorder (Carpenter-Song et al., 2010). More African American women believed that their friends would not view them differently if diagnosed with depression, which is inconsistent with past research that found African American women were often concerned about judgment from their friends about mental health problems (Beauboeuf-Lafontant, 2007). For the women who felt they would be viewed differently, most African American participants and a third of White American participants thought they would be viewed as fragile and weak, which is consistent with past research about African American women (Beauboeuf-Lafontant, 2007). While fewer White American women thought they would be viewed as weak than African American women, it is still unexpected that such a large proportion of them felt that way because those are concerns that have been historically associated with African American women concerning mental health. Another third of White American women and a few African American women thought their friends would view them as silly or dramatic, which is somewhat inconsistent with past research because those are descriptions that have been more associated with White American women than

African American women (Beauboeuf-Lafontant, 2007). It is important to continue to reduce stigma especially feeling dismissed if White American and weak or contagious if African American.

The stigma made more African American than White American women feel uncomfortable disclosing a depression diagnosis to anyone outside of some immediate family members. African American women were protective about who they disclosed a mental health condition to because they would not want to be judged and did not think they would understand or would be unable to help them, which is consistent with past research (Beauboeuf-Lafontant, 2007). White American women were more likely to feel comfortable telling others if they thought someone could help them understand their condition and experiences, while African American participants were more likely to be open telling others if they thought they could help someone else, which is consistent with past research about the importance of a sense of community for African Americans (Alang, 2016). A quarter of African American and White American participants would never tell an employer, coworker, or academic advisor about a depression diagnosis, which is consistent with past research (Campbell & Mowbray, 2016). The findings suggest that while African American and White American women may not judge themselves as harshly if they are having mental health struggles, but they still worry about judgement from employers. While some employers have made accommodations for people with disabilities and some mental disorders like depression, people are still afraid to disclose their mental health conditions and take advantage of any accommodations. It is also not only stigma and fear of repercussions that are barriers to disclosing mental health struggles to others, but also feeling like family and friends may not be helpful or understand their experiences as well as wanting to maintain some control or independence over their mental health. It is promising that many of the

participants felt comfortable disclosing their mental health experiences to some loved ones. It is also problematic that so many participants felt their family and friends would not understand their conditions or be able to help them. This could prevent people from getting the emotional and tangible support they need to manage their mental health or even discourage them seeking professional help if they worry their family and friends would not understand. Individuals who fear disclosure may be forced to live in secret, and secrets have been found to worsen mental and physical health through stress and shame (Slepian, Chun, & Mason, 2017). It is important to further investigate how women's internal feelings about managing depression relates to the belief that people in wider society and professional environments view depression negatively and how that impacts help-seeking and mental health.

Seventh, media campaigns have positive and negative impact on African American and White American women's acceptance of depression and mental health treatment. Social media and television may be partially responsible for African American women being more open to mental health treatment and discussing mental health with family and friends. The findings suggest that more back women are noticing campaigns about depression and believe that main messages of these campaigns are to encourage people to be more open to talking about mental health, ask for support, and to reach out friends who may need help. While media campaigns may help reduce stigma and encourage people to seek help, it may not have the same impact on White American women as African American women. White American women talked more about the negative media messages that can perpetuate or worsen stigma and help-seeking for some people, but it may be because they focused on news coverage of mental disorders that are usually associated with violence or crime. Another possibility may be that more campaigns and conversations about mental health are targeted toward African Americans now than in the past.

These campaigns may focus on awareness and help-seeking in an attempt to reduce stigma in the African American community and reduce mental health inequalities as unmet mental health needs among African Americans continue to be a public health priority.

It is important to consider the sample's characteristics when interpreting the data collected from their interviews. Since the population was recruited mainly from an online research database, the findings are limited in their generalizability to all African American and White American women and may not represent the true proportionality of these issues and experiences in these populations. The participants in the sample are more educated, younger, and have disproportionately higher rates of mental disorders and engagement with health services than the broader population. The women in the study may already be educated about and comfortable with mental health care, which impacts how they perceive mental disorders like depression and mental health treatment. The results of this study may not extend to older women, those with lower educational attainment, or individuals with minimal experience with health services for mental health issues. However, there are very few previously reported studies that examine experiences of depression and help-seeking among African American and White American women, and that address racial differences in these mental health topics. The findings from this study represent an important step in identifying the relevant issues that impact mental health engagement especially among educated and younger African American women. Although the results are not generalizable across African American and White American women, they can still be used to further explore experiences and meanings of depression and help-seeking using other methodologies.

LIMITATIONS

This study involved several important limitations. While my identity as an African American woman was a strength when conducting interviews with other African American women, it was a limitation when interviewing White American participants. Some White American women seemed hesitant to talk about issues of race especially those involving African Americans with me, and in retrospect I should have enlisted a White American woman to conduct the interviews with the White American participants. Also, since the data was collected through interviews, people may not have been honest or presented answers that they thought I would like to hear, therefore some responses may have been biased by social desirability. In addition, the results about the stigma and negative messages that participants experienced from family, friends, and employers were entirely based on the perceptions of the respondents. While it is important to know how individuals believe they are viewed and treated, the study did not interview family members, friends, employers, or academic advisors to know how they felt about people with depression and how they compared with participants' beliefs.

CONCLUSION

Despite these limitations, this study has extended culture and social psychology scholarship by exploring racial differences in meanings and beliefs about mental health, depression, and help-seeking. African American and White American women ascribe different meanings and consequences to depression and mental health treatment that can impact whether they share their experiences with others or seek help when faced with mental health adversity. The findings can inform the development of effective, culturally appropriate interventions for depressed African American women. The development of culturally-appropriate interventions can help improve the measurement and diagnoses of mental illness and mental health utilization for African American which may help reduce the proportion of individuals with unmet mental

health needs in racial/ethnic minority communities. While it is also important to acknowledge that these key racial differences in the meaning and perception of depression, there are also more similarities than previous research has suggested which can inform how we think about race and mental health.

There is a need for tailored interventions and campaigns to the beliefs and experiences of depression that differ by race to encourage women, especially African American women to discuss and seek help for depressive symptoms. Mental health providers and advocates need to continue to educate African American women about mental health resources and help them gain access to appropriate care. It is also important to provide culturally appropriate interventions for patients such as suggesting lifestyle changes and/or faith or prayer along with therapy for African American women to encourage to engage and remain in treatment. These interventions should also continue to educate people about medication and focus on alternative treatments before prescribing any medication to patients across race since most of the participants in this study only viewed medication as a last resort or for those with severe depression. While culturally appropriate interventions are important there is still a need for diverse mental health providers specifically more providers of color or who are members of historically marginalized groups to gain the trust and comfort of African American women and others who are marginalized. It is also essential for clinicians to consider somatization, irritability, and mood unpredictability as possible symptoms of depression to potentially improve diagnoses of depression and encourage treatment.

There is plenty of room to target communication about mental health in families, media, and the workplace to encourage help-seeking and discussion about depression. Mental health advocates can encourage families to talk to their children about mental health as they are

growing up and to promote checking in with your family about mental health as part of a normal and healthy conversation. These conversations in families can help destigmatize mental health problems and encourage open conversation. Media, especially television shows and social media have been effective in helping African American women recognize the symptoms of depression and to seek help from others like family, friends, or therapists to manage their mental health struggles. It is also important to find the most effective campaigns for different groups to encourage help-seeking and mental health, for example since African American women are more open to talking about their mental health experiences if they think they will help others then campaigns can emphasize how communication and treatment can help others as well as the person receiving help. White American women, on the other hand, viewed some of the media coverage and campaigns about depression as negative or confusing messages, so there should be clearer and direct goals of the campaigns for White American women or other demographics that can help raise awareness and encourage conversation or help about depression and to counterbalance some of the negative and harmful coverage of mental health. There should also be more effective initiatives to protect employees with depression and reduce stigma and discrimination that occurs in the workplace. The fear of professional stigma is especially damaging even as there has been a push to raise awareness about depression and reduce social repercussions because people will always be more likely to hide conditions if they perceive their livelihoods are at-risk. These interventions and suggestions may reduce the proportion of individuals with unmet mental health needs both within and outside of the African American community.

Future research should continue to investigate the meanings and perceptions of depression and help-seeking among African Americans to better understand African Americans'

experiences with depression and how they differ from other racial/ethnic groups. In addition to depression, we can consider the meanings of other mental health disorders such as bipolar disorder or schizophrenia. While this study considered sociodemographic variation with interviewing African American and White American women, research can also explore how the meanings of mental illness and help-seeking vary by other sociodemographic characteristics such as gender or socioeconomic position. We need research on stigma about depression in different social contexts such as the workplace or in personal relationships, and how the types of stigma and negative messages are becoming more similar for African American and White American women as well as the ways they still differ. Finally, we need more research on the role of the media especially social media and television shows on mental health awareness, stigma, and help-seeking and how these messages differ by race. Through this research on interventions and the media, we can find means to reduce stigma and barriers to health care that are prevalent for African Americans and continue to improve the mental health of this underserved group.

CHAPTER V

Conclusion

This dissertation aimed to investigate mental health and substance misuse across the life course, and to identify some of the mechanisms that underlie mental health disparities in the United States. To address these mental health disparities, I focused on three key aspects of population mental health: psychological distress, substance misuse, and beliefs about depression and help-seeking. Based on quantitative analysis on the impact of early life stress and adversity and later life mental health and substance misuse, it can be concluded that inequalities in exposure early life stressors are important factors that contribute to mental health disparities. The results also indicate that inequalities in psychological and psychosocial resources should be considered important factors in mental health disparities because these resources play a key role in whether early life stressors lead to psychological distress and/or substance misuse in adulthood. In addition to exposure to early stressors and inequalities in resources as mechanisms underlying mental health disparities, qualitative analysis of racial differences in experiences and meanings of depression indicated that cultural differences in messages about race, mental health, and help-seeking represent another set of factors contributing to disparities and unmet mental health needs.

Key Findings

The research demonstrated that childhood and adolescence are important developmental periods, and negative experiences during these periods have lasting impact on mental health throughout the life course. Stressors that occur in early life, whether they occur within the family

context or between peers, can lead to mental health problems and negative consequences in adulthood. Children and adolescents who endure bully victimization or multiple adverse childhood experiences (ACEs) such as physical neglect or abuse are at-risk for developing psychological distress and engaging in substance misuse as adults. However, social support and the meanings that individuals place on their experiences in early life can impact their psychological well-being and coping strategies. Early life adversity can damage victims' self-worth and social relationships further damaging their mental health, or positive messages and support can encourage people to seek help for their struggles to improve their psychological well-being.

The internalization of stressors and cultural messages about adversity can have harmful consequences for later life mental health. Adolescents who are victims of peer bullying can internalize perpetrators' perceived feelings about them and interpret the victimization as evidence that they are inadequate or unlikeable, which then damages their self-worth and mental health into adulthood. The meaning that people place on stress and adversity can impact their mental health and whether they share their experiences with others or seek help for any mental health struggles. Individuals can also internalize the messages from family and friends about mental health and stress and shape their behaviors to align with the main messages in their communities because they fear stigma or potential alienation. For example, if someone is surrounded by cultural messages that emphasize enduring adversity and pain on your own and suggests that acknowledging or seeking help for distress are signs of weakness, then he or she may suffer in silence out of fear of appearing weak to others or to his or herself. Internalizing negative cultural messages in early life about mental health and weakness can cause children and adolescents to feel worthless or ashamed if they have any distress or feel they need help. The

cultural messages can lead to more stress and secrecy, and lead to additional feelings of shame and worthlessness; without positive social support or mental health treatment, feelings of shame, worthlessness, and inadequacy can linger into adulthood and worsen mental health problems or even lead to negative coping strategies like substance misuse.

The messages that are learned early in life whether from early life adversity, bully victimization, or interactions with family and friends can influence how individuals handle and cope with adversity. Negative experiences with family and peers that damage self-worth can make it difficult to connect with and trust others, which can impede and disrupt social ties and support. A lack of social ties and support can make it difficult to seek help for distress stems from adversity, which can lead to more mental health problems that make it difficult to make and maintain friendships. The dearth of social relationships can lead to worsening mental health and problematic coping strategies. Some adolescents who endured early life adversity are able to maintain friendships and high levels of social support, but many of them are still at higher-risk of engaging in substance misuse in adulthood which shows how harmful early life adversity can be on mental health and behaviors. Cultural messages and stress endured in early life can be some of the underlying mechanisms in mental health disparities because of their consequences for self-worth, social relationships, and help-seeking that can lead to mental health problems throughout the life course.

The research showed that the manners in which researchers and healthcare providers have traditionally approached and measured stress and depression can contribute to mental health disparities. Peer victimization has sometimes been viewed as harmful to mental health for a short period of time in early life and that any kind of bullying is problematic for self-esteem and psychological well-being (Hawker & Boulton, 2001). I found that adolescent peer victimization

can contribute to psychological distress in adulthood and that the long-term impact of victimization differed by the type of bullying victims received. Likewise, in early life adversity research, a cumulative early life adversity measure is used because research has assumed that different types of adversity have equal impact on later health-risk behaviors. I found that domains of adversity impact substance misuse in different manners than cumulative early life adversity. These findings about adolescent peer victimization and early life adversity suggest that while early life adversity and peer victimization are harmful for mental health, researchers should also recognize the nuances of these stressors and their impact on later life mental health outcomes. If researchers rely on cumulative early life adversity or broad peer victimization measures, they may miss relationships between different types of adversities or bully victimization that can cause them to underestimate the impact of early life stress and adversity of later life mental health. Similarly, researchers and healthcare providers often rely on DSM-V guidelines to determine whether individuals should be diagnosed with depression or are exhibiting depressive symptoms, but African American women may exhibit depressive symptoms such as anger or mood unpredictability that are not recognized by the standard guidelines. If healthcare providers are unable to classify African American women's perceived depressive symptoms as depression, then it can lead to inconsistent diagnoses and depression care and contribute to the high unmet mental health needs among racial/ethnic minorities. It is important to consider the nuances of early life stress and adversity and depression experiences to gain a comprehensive understanding of the consequences of early life experiences on later life mental health, and to provide consistent diagnoses of depression and depression care to reduce inequalities in mental health. First, the research contributed to social stress scholarship by utilizing prospective longitudinal data to demonstrate that the consequences of adolescent peer

victimization can linger and contribute to poor mental health in emerging adulthood. The study also addressed a gap in the peer victimization and stress literature with the finding that adolescent self-concept partially mediates the relationship between adolescent bully victimization and later mental health. Second, the research extended the stress process model and early life adversity literature by showing that adverse childhood experiences can impact substance misuse in young adulthood, and that social support can act as a buffer or aggravator between ACEs and substance misuse. This empirical study also contributed to the literature by showing that cumulative early life adversity and domains of early life adversities have different relationships and impact on later life substance misuse. Third, the research extended culture and social psychology literature by demonstrating how racial differences in beliefs and experiences of depression impact how women cope with stress, recognize depression, or seek help for mental health problems. These studies demonstrate the importance of longitudinal and qualitative data to understand the underlying mechanisms contributing to various aspects of mental health disparities. The research also provides a comprehensive understanding of the consequences of early life stress and messages and how they impact later mental health and help-seeking.

The studies contributed to social support scholarship by showing the complicated relationship between social support, health-risk behaviors, and help-seeking. Research tends to posit that social support, especially during childhood and adolescence, promotes positive mental health and health behaviors that can last through the life course, even for individuals who have endured early life adversity. I found that social support is not a universal buffer between early life stress and substance misuse because it was not a moderator between cumulative early life adversity and substance misuse. In fact, for some young adults who experienced certain domains of early life adversity, high levels of social support were associated with more substance misuse

which suggests that social support can also be harmful to health. The results from the qualitative work showed that positive social support and messages from families and friends about mental health and treatment can also encourage people to communicate about their experiences and pursue mental health treatment when distressed to enhance their psychological well-being. In contrast, negative messages about mental health and treatment from family can discourage and prevent some people from seeking help for distress even at the expense of their mental health. Collectively, these studies show that the impact of social support on mental health and behaviors is complicated because while it can promote mental health and health-promoting behaviors, social support can also be harmful and encourage substance misuse and resistance to help-seeking.

Broader Impact and Intervention Implications

Findings from this research will provide policymakers and mental health advocates with knowledge about the long-term consequences of early life stress, adversity, and negative cultural messages about mental health. Better understanding of the long-term mental health consequences of childhood and adolescent social stressors and adversity may allow advocates and practitioners to potentially intervene with effective interventions to improve population mental health and substance misuse in emerging and young adults. The results support public health literature that suggests the greatest opportunity for prevention of mental health and substance abuse or misuse problems is among young people (Healthy People 2020). Intervention and prevention programs can focus on reducing adolescent peer victimization and enhancing the self-concept of victims to reduce mental health problems in emerging adulthood. Based on the findings about the dual impact of social support on adolescents who experience early life adversity, it is important that interventions for youth who experience ACEs promote positive social support and constructive

coping skills that may reduce substance misuse in young adulthood. It will also be important to recognize that the impact of cumulative early life adversity and domains of adversities differ on substance misuse, and that different subtypes of adolescent peer victimization have different relationships with mental health in adulthood. Interventions can be designed to target specific subtypes of peer victimization like peer harassment and teasing, or domains of adversities like interpersonal loss or neglect, to improve long-term mental health and substance misuse behaviors. Practitioners can also promote open communication about mental health in families and encourage positive messages about mental health treatment in childhood and adolescence to reduce stigma and promote help-seeking and positive coping strategies that can endure into adulthood.

There is also opportunity to design effective interventions for adults based on their beliefs about depression and help-seeking to reduce mental health disparities, especially unmet mental health needs in racial/ethnic minorities. Interventions and media campaigns can be tailored to the beliefs and experiences of depression and consider how they differ by race. The campaigns can encourage individuals to recognize and seek help for poor mental health and promote effective coping strategies among African American women. There is still a need for diverse mental healthcare systems, especially more providers of color, to gain the trust and comfort of African American women so programs and policies can be used to reduce barriers and incentivize people of color to enter mental health fields. While these strategies cannot fix the structural inequality that contributes to African Americans encountering more stressors like institutional racism that contribute to mental disparities, these interventions and policies can reduce mental health disparities by increasing mental health services utilization and provide outlets and coping strategies for stress for African American women.

Future Directions

To better understand the implications of the results of this research, further research about social stress and meanings of mental health is necessary. Future studies should continue to utilize prospective longitudinal data to examine potential mediating and moderating factors in the relationships between early life stress and adversity and long-term mental health and health-risk behaviors. Future research can also continue to investigate the nuances of early life adversity through examining the impact domains of early life adversities on mental health and health-risk behaviors. Studies can continue to investigate the meanings and experiences of depression and help-seeking among African Americans to better understand their experiences and beliefs and how they differ from other racial/ethnic groups. However, in addition to depression research can consider the meanings and experiences of other mental disorders such as bipolar disorder and schizophrenia. While this research on early life stress and cultural meanings of depression considered some demographic variation with gender and race, future studies can explore other marginalized populations and sociodemographic characteristics such as socioeconomic position, age, or sexual orientation.

Conclusion

This research contributed to a better understanding of the factors that contribute to mental health disparities across the life course. Inequalities in exposure to early life peer victimization and adversity, and differences in access to psychological and psychosocial resources contribute to mental health disparities in adulthood. While there are interventions and forms of treatment to promote psychological well-being, the cultural meanings that individuals place on mental health and treatment influences whether they utilize available services. Racial differences in the experiences of depression, stigma, and messages about help-seeking can contribute to unmet

mental health needs and mental health disparities. The knowledge gained from these studies can inform sociological scholarship and interventions that can eventually help to improve population mental health.

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